

# MARINE RECORD

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## LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

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## NOTICE TO MASTERS ENTERING OR LEAVING BUFFALO HARBOR.

BUFFALO, N. Y., July 20, 1901.

Editor Marine Record:

Commander Dunlap, U. S. N., inspector of the Tenth Light-House District, reports that there have been some complaints of late that the fog-signal in Buffalo harbor is not sounded when the conditions of the atmosphere require its operation. Investigation of these reports shows that the dark background of the south shore of Lake Erie near Buffalo often makes it difficult for the keeper in charge of the fog-signal to discriminate between the hills on shore and dark clouds of smoke which sometimes settle over the lake in that direction.

Vessel masters entering or leaving Buffalo harbor in thick or smoky weather and needing but not getting the assistance of the fog-signal, are requested to sound their own whistles frequently, and in such cases the keeper having charge of the fog-signal will at once begin to sound the bell and make immediate preparations to get the fog-signal in operation as soon as possible. The conditions referred to above do not frequently occur, but if vessel masters will heed this request of the inspector, he believes there will be no further cause for complaint.

C. H. KEEP, Sec'y,  
Lake Carriers' Association.

## THAT FOURTEEN-FEET CANADIAN WATERWAY.

It appears there is still some doubt regarding a clear 14-foot waterway down the St. Lawrence river. A Kingston exchange recently stated that Capt. Batten had safely piloted three boats, drawing 14½ feet, down the St. Lawrence. However, an equally well-known pilot, Capt. R. Delaney, takes exception to the statement in the following terms:

Permit me to say that the item regarding Capt. Batten's feat is all incorrect.

I am not condemning the 14-foot channel of the River St. Lawrence, but it would favor me very much to know the names of the three boats that Capt. Batten brought down through the river loaded to 14 feet 6 inches. There were no such boats went to Montreal this week.

Capt. Batten may be a good pilot, but then there are others equally as capable, and I challenge Batten to run a deep-water boat with me on the St. Lawrence river between Montreal, Chicago and Duluth.

Capt. Batten may be commodore of the Richelieu line, but is by no means of the St. Lawrence river. I feel it my duty to take some steps in regard to this matter and I know that many other pilots will agree with me.

The letter on this subject from Capt. T. Donnelly, which we published recently, is to the same point. It was written in response to our request, not with any desire to find fault, but to point out the exact position of affairs. Capt. Donnelly states his positive opinion that there is not a safe 14-foot channel throughout the season between Montreal and Kingston, but adds that he believes the Government will make it a safe channel in the very near future. The importance of prompt action in this matter cannot be overestimated, and it is to be hoped the Minister of Railways and Canals will see that the necessary work is gone on with without delay.

## IMPROVEMENTS ON THE SUEZ CANAL.

The latest report of the Suez Canal Co. calls attention to modern improvements, to meet the requirements of navigation, which will be inaugurated in the near future. The deepening of the channel to a depth of 30 to 31 feet has been begun, and it is contemplated to light the canal by electricity, so as to let the traffic proceed at night. To meet these expenses and those of a few minor improvements, a new loan of \$4,925,000 will be negotiated. Since the opening of the Suez canal, but little has been done in following the development of navigation. The year 1900 showed no increase in revenues and the traffic in late years has been almost at a standstill. Trans-oceanic navigation has for some time realized that the use of small steamers for long distances leaves but a small margin of profit, even on high rates of freight transportation. Vessels of large tonnage, however, were unknown at the time of the opening of the Suez canal, and the depth of the canal is insufficient for them, which is given as the reason that the year 1900 shows no increase in traffic. This is to be remedied by modern reforms, the principal of which will be the enlargement of the channel, as noted.

## SHIPPING A PROPELLER AND SHAFT IN MIDOCEAN.

The Norwegian-owned steamer Guernsey, recently arrived at Victoria, B. C., reported having lost her tail end shaft and screw on the passage across the Pacific.

A spare shaft and propeller wheel were on board and cargo was shifted until she was tipped well by the head lifting the stern pipe out of water.

Rafts were improvised and a nine-ton propeller lowered. The shaft was placed in position without great difficulty, but the swell of the ocean and crude appliances at hand made the task of shipping the screw almost impossible. Repeated attempts only resulted in failure until finally by the captain's orders, two opposite blades were cut off. Thus lightened, the screw was at last got into position, and Captain Kroghanson got under way with his two bladed propeller the following day.

THE twenty-sixth annual review of the Pacific coast marine and cognate industrial interests is now before us as published by the Daily Commercial News, San Francisco. To those at a distance, it is of the utmost importance that these annuals should be compiled, and especially in such excellent form as the present issue from the press of the Commercial News. Any of our readers desiring to keep in touch with the modern march of improvements in shipbuilding, owning, chartering, etc., on the Pacific slope should be in possession of a copy of this annual review.

## CANADIAN FREIGHT ASSOCIATION.

At the annual meeting of the association held at Montreal, the lake and rail rates, differentials, etc., for the season of 1901 were under discussion.

The Merchants Line reported the following as their proposed fleet: Persia, Ocean, Arabian, Iona, Cuba, Lake Michigan and Melbourne.

The R. & O. Nav. Co. reported the following: Toronto, Bohemian, Corsican, Spartan, Algerian, Hamilton, Kingston and Columbian.

C. J. Smith reported steamer or steamers of the Canada Atlantic Transit Co., or in connection therewith, to and from Depot Harbor.

The North West Transportation Co. reported steamers between Sarnia and Port Arthur, Fort William and Duluth.

The Hamilton and Fort William Nav. Co. reported steamers Strathcona and Dumaire.

The Algoma Central S. S. Line reported steamers between Sault Ste. Marie and Michipicoten, Batchewana, Goulais, Agawa, Gargantua and Brule. Also between Owen Sound, Midland and Parry Sound, and Fort William and Port Arthur, calling at Little Current, Sault Ste. Marie, Port Coldwell, Jack Fish, Rossport and Nepigon. Also between Windsor, Sault Ste. Marie, calling at Sarnia, Goderich, Kincardine, Southampton and Little Current.

The Niagara, St. Catharines and Toronto Ry. Co. reported steamers between Toronto and Port Dalhousie and St. Catharines.

A. W. Hepburn reported the steamer Alexandria on the St. Lawrence river and Bay of Quinte ports.

It is understood that the boat lines will be governed by the rules of the Freight Inspection Bureau and the Canadian Joint Freight Classification and it has agreed that regular meetings of this freight committee be held on the first Thursday of each month unless otherwise specially ordered.

The Niagara Navigation Co. is not found listed in the foregoing. The steamers owned by the N. N. Co. are: Atlantic, Germanic, City of Collingwood, City of Midland, City of Toronto, Majestic, Britannic. The company has exclusive connections with the G. T. R. from all points on Georgian Bay at which the G. T. lines touch, viz.: Midland, Penetanguishene, Collingwood, Meaford and Owen Sound, to all points east of Sault Ste. Marie, and also an exclusive connection with the C. P. R. at Owen Sound for all points east of Sault Ste. Marie, and has a steamer running from Midland and Penetanguishene to Parry Sound; also a line running from Collingwood to Parry Sound, Point au Baril, Byng Inlet and French River throughout the season, and for three months in summer this line extends to Killarney, making close connection there with the main line of steamers from Collingwood and Owen Sound; also a line of four steamers a week from Collingwood, Meaford and Owen Sound to Sault Ste. Marie and all intermediate ports, and for this season has one of its steamers running from Sarnia to Lake Superior ports, making up the Sarnia line to three steamers and two sailings a week from Sarnia. The possibility is that the N. N. Co. may eventually be absorbed by the R. & O. Nav. Co., at least persistent rumors to this effect are current.

An association to be known as the Tacoma Maritime Exchange has been organized at the port of Tacoma, Washington. The officers of the new exchange are: Cary W. Cook, president; Frank G. Taylor, vice-president and treasurer; J. K. Dorr has been appointed secretary. Temporary headquarters have been established at the Donnelly hotel. The Exchange enters the field with fifty members, among whom are the largest shipping concerns of the port.





## DETROIT.

*Special Correspondence to the Marine Record.*

Miss Catherine Whipple Sibley, of Detroit, a lineal descendant of Commodore John P. Whipple, has been chosen to christen the torpedo boat Whipple at Baltimore, Aug. 15.

Among those present at the Lumber Carriers' meeting this week were: F. W. Gilchrist, Edward Hines, J. A. Calbick, O. W. Blodgett, H. E. Runnells, C. H. Prescott, E. F. Fisher and William Teare.

The Buffalo Dry Dock Co. have libeled the schooner Maria Martin for some \$200 work on the boat. She is in the river here but on the Canadian side and the libel is not plastered on her mainmast as yet.

Capt. James Davidson, seeing there was nothing else for it, gave way to the union tugboatmen and discharged his non-unionists. His entire fleet was threatened with detention otherwise.

Cleveland and Ashtabula lodges of marine engineers have been granted charters in the Longshoremen's Association, and other branches of the M. E. B. A. have their petitions now before the council for action to be taken thereon.

If the Indian legend, regarding a dry moon, is to be taken into account, viz., when the lower horn of the new moon is tilted just sufficiently to hang a powder flask on, it will be a dry month, then the present weather is assured for we had just such a form in the new moon this month.

Secretary Gage has filled the vacancy in the office of inspector of hulls at Detroit by selecting Capt. Joseph P. Cottrell of Detroit, on certification by the civil service commission. Capt. Cottrell has been temporarily in charge of the office here since the first of April. The salary is \$1,800 a year. Capt. Sidney Millen formerly held the position.

After about 20 years of busy work the old Fletcher saw mill at Alpena is being dismantled. The mill was built by Fletcher, Pack & Co., afterwards sold to Geo. N. Fletcher & Sons. Its capacity was 25,000,000 feet of lumber per year, and it was frequently run night and day. This is an indication of how the lumber industry is petering out at Lake Huron ports.

The movement of lumber by water out of Saginaw river has dwindled into insignificant proportions. During June only 790,000 feet were shipped from Bay City and none from Saginaw. The total shipments from the opening of navigation to date were 3,530,619 feet. Receipts of lumber in the river by water during the month were 10,555,421 feet, and for the season to date 21,043,626.

The Detroit Ship Building Co. has just closed a contract with Seattle parties for a triple expansion engine 11x18x31, with a twenty-inch stroke. The contract also includes condensers and pumps. The prestige attained by the Detroit Ship Building Co. is world-wide, and markedly so in the special skill for designing and constructing ice breakers and large, speedy passenger steamers.

The now ancient report that Capt. Davidson will establish a steel shipbuilding plant for the construction of ships, engines and boilers has been revamped this week, also that Dunford & Son, successors to Dunford & Alverson, Port Huron, will do the same. Well! of course they may but those most nearly interested can't place anything like the exact date when they will be ready to figure on their first order.

A prominent and experienced vesselman here when asked what he thought of the Chicago Atlantic boats said "Of course I don't want to handle the other fellow's boats but the sooner that they get them off their hands and turn them into coasters the less money they will stand to lose. With another 1600 feet of construction put into the four of them they would be fairly good lake carriers, but they are neither one thing nor the other in their present trade."

The indications so far are that a Detroit yacht will be chosen to defend the championship of the Great Lakes this year against the Canadian boat, Invader, which is to come over the boundary to win back the challenge cup lost by the Canada, then the pride of the Dominion yachtsmen, two

years ago. Chicago has put more money into the building and equipment of racing yachts than Detroit has spent, but Detroit seems likely to hold its position as a great port for fast sailing yachting craft.

Major W. L. Fisk, in charge of river and harbor work in the Detroit district, recommends the following appropriations above \$25,000 for the fiscal year ending June 30, 1903: Saginaw river, \$50,000 for improvement; harbor of refuge, Sand Beach, Lake Huron, \$60,000 to complete improvement; Black river, Port Huron, \$28,000. Colonel G. J. Lydecker, in his annual report concerning the river and harbor work in his charge, recommends the following appropriations in excess of \$25,000 for the next fiscal year: Hay Lake Channel, St. Mary's river, Michigan, \$144,115; Detroit river, \$136,500 to complete improvement.

## BUFFALO.

*Special Correspondence to The Marine Record.*

The Ogdensburg longshoremen recently refused to unload a lumber barge until the boat had paid a fine of \$86, levied by Oswego branch, for loading with non-union men. The fine was paid.

The Army and Navy Journal, New York, says:—Lewis Nixon is said to have a "lead-pipe cinch" on the Tammany nomination for next mayor of New York. Mr. Nixon, who is a graduate of the Naval Academy, would make an excellent mayor, and, if nominated, should be a hard man to beat. For his own good, however, we hope that he will stick to building ships for others instead of launching his own craft on the troubled sea of politics.

The Montreal harbor commissioners instructed their secretary to communicate with Capt. Wolvin and his associates, with the Grand Trunk, the Canada Atlantic, and Canadian Pacific Railway Companies, and any other large transportation companies, with a view to ascertaining on what terms they would operate an elevator and terminal facilities at Windmill Point, should the commissioners obtain a cancellation of the Conners contract.

Marine men are watching with considerable interest the workings of the new pneumatic scoops which were put in at the elevators at Ogdensburg. The scoop is controlled by a pneumatic device in the handle, and it will carry 1,350 pounds at a scoop. Twelve men in the hold, working with the steam shovels, will accomplish as much work as forty or fifty with hand scoops. It is claimed that the machine is suited to ore and coal as well as grain.

Everybody in Buffalo, whose opinion is not influenced by selfish considerations, will applaud the effort of the Harbor Commission to secure the control of the Bird Island pier dockage for the city's uses and disposition. It is the duty of the Harbor Commission to recover and re-convert to public uses as much as possible of the original water front and the same is true regarding this situation at all other lake ports, the larger the port the greater the necessity for such action being taken.

Evidently the United States has some work to do in clearing the St. Lawrence river of obstructions as Major J. W. Symons, Corps of Engineers, asks for an appropriation of \$150,000 to complete improvements in the vicinity of Cape Vincent and \$40,000 to remove shoals between Ogdensburg and Lake Ontario. In the meantime the Canadian survey boat, Jessie Bain, is on the ground with engineers Chaplien and Dufresne, who are making a survey of the river from Kingston to Prescott with a view to removing obstructions in the channel so as to make a 14-ft. channel throughout. Capt. Gaskin, of Kingston, and Capt. Battem, the chief pilot of the mail line, will go over the route with the engineers. These pilots are supposed to be acquainted with every spot in the river channel.

There are now two six-masted schooners afloat, viz., the George W. Wells and the Eleanor A. Percy. The first and only seven-masted schooner of nearly 400 feet in length is to be built of steel, and how to name her seventh stick is a poser for the sages of marine nomenclature to unravel, so far, ringtail has been suggested, which would be an old word under a new form. This would give us fore, main, mizen, spanker, jigger, driver and ringtail masts. As the spars and canvas are each of the same dimensions and meant to be interchangeable, a doubling of the old terms would distinguish a whole dozen of masts. For instance, foremast, after foremast, mainmast, after mainmast, mizen, after mizenmast, spanker, after spankermast, driver and after drivermast, and finally, the little wee stick in the boat abaft all.

## CHICAGO.

*Special Correspondence to The Marine Record.*

Vessel room for 400,000 bushels of wheat and corn was taken here on Monday.

The new smoke consumer which a New York company has been trying on the tugs of the Great Lakes Towing Co., has not proved a success.

Whether to be congratulated or not, Barry Bros. have secured the two fine wooden steamers, Badger State and Empire State, now lying at Lorain, O. After a thorough overhauling, they will be placed on the route between here and Milwaukee.

The log of the whaleback modeled passenger steamer Christopher Columbus shows that she made the run from Chicago to St. Joseph in three hours and two minutes instead of three hours and twelve minutes as had been supposed. The steamer Puritan, of the Graham & Morton Line, will therefore have to try again as her late passage was made in three hours and eleven minutes.

The Ship Owners Dry Dock Co. are making great improvements on the old property of the late Miller's plant, and it is in the future to see a busy shipyard as well as modern dry docks established at this point. The business warrants and the future demands just what the well-advised and experienced stockholders in the Ship Owners Dry Dock Co. are now engaged in carrying out, and, in fact, the changes ought to have been made long ago.

Nine yachts reached here ready to defend the Canada's cup against the Canadian boat Invader on August 10. The yachts are: Orion and Milwaukee, of Milwaukee; Detroit and Cadillac, of Detroit; and Illinois, Yankee, Minota, Prairie and Briar, of Chicago. The Genesee is the boat which took the cup two years ago against the Canadian yacht Beaver off Toronto. The course is triangular, seven nautical miles to the leg. Since the races on Saturday last the list is being beautifully reduced and yachtsmen's notions of speedy forms of hulls as regularly exploded.

The Baltimore and Ohio Railroad bridge at South Chicago is being roundly cursed by all interests connected with trade and business on the Calumet river, though chiefly so by vesselmen. It has become so common to obstruct and harass lake shipping at this port that it appears the same tactics are being introduced at South Chicago. It is flatly stated that the engineer officer who permitted the obstruction to be placed in the river allowed himself to lean all in favor of the railroad company.

The Secretary of War has approved an order authorizing the current in the Chicago drainage canal to be increased from 200,000 to 300,000 cubic feet an hour between the hours of four o'clock in the afternoon and twelve o'clock midnight. The flowage formerly was 300,000 feet, but was decreased upon complaint of vessel owners that such a flowage made the current of the Chicago river too swift and interfered with commerce. It is claimed that there are not many boats moving on the river between the hours named, so that the new order is in the form of a compromise.

Captain G. E. Atkinson, has resigned his charge as master of the Northwestern, his reason for doing so was the long voyage, although he says the trip could be made inside of two months after everything was in working order. He said that he would probably not be the only one to decline a second voyage, as he expected Captain C. E. Ross, of the Northman, to do the same, but not on account of anything pertaining to the qualities of the steamers. According to last week's RECORD Atkinson said he could make the voyage in 49 days, now he wants everything to go right and do it in 60 days. As a matter of practice, fact and experience Atkinson has discovered that the little boats are not Atlantic liners, also can he count in, or rather he can't count at all, on canal lockages, fogs, gales, tides, dry docking and a few other little items like the foregoing which may prevent schedule time being made.

Charles Counsellman, president of the Northwestern Steamship Co., trading from this port across the Atlantic, says: "It is most too early to determine what the outcome of this venture will be. We have had many things not to our liking to contend with in our early experience, but it has been clearly demonstrated that a line of ships can be operated between here and Europe with perfect safety and dispatch. No doubt it will take a long time to establish the fact with insurance companies that there is no more risk in navigating the rivers and canals to the seaboard than there is in sailing the lakes. If anything prevents the success of the venture it will be the insurance rates. They are now \$1.25 per \$100 on the cargoes, as against a rate of from 15 to 20 cents from



New York to Europe. There is a difference of about \$1.40 per ton on high classed provisions from Chicago to Europe compared with the rate charged by the insurance companies from the seaboard to Europe. That in itself would be an excellent profit, and as everything else is rated proportionately high a large part of the profits are eaten up. The companies simply base the excess charge on the risk they assume through the rivers and canals, and with this eliminated the charge should not be more than 50 cents per \$100. That would be a fair figure all around, but they do not see it that way; and from the present point of view it does not appear they are going to." Cargoes are awaiting the Northwestern and the Northman, which will be loaded when they leave the dry dock at South Chicago and they will both sail again next week. The Northeastern will in all likelihood be the next boat of the company to arrive here. She left London early in July. The fourth steamer, the Northtown, will leave Hamburg in a few days and will get in here probably ten days behind the Northeastern, there or thereabouts.

#### CLEVELAND.

##### Special Correspondence to The Marine Record.

J. F. Wedow and family left last night for a trip to Duluth on the steamer Scranton.

Capt. Hewitt now takes the Euclid Beach ferryboat Superior in place of Capt. Olson.

A. J. Monroe has cleared at the Custom House as master of the schooner, M. S. Bacon, of Port Huron.

At the annual meeting of the American Ship Building Co. A. B. Wolvin, Duluth, was elected a director, succeeding W. E. Fitzgerald, Milwaukee, deceased.

Mr. Metcalf, of the Chase Machine Co., has returned to business after a very enjoyable vacation lasting about three weeks.

The steamer W. B. Morley was chartered on Wednesday to carry grain between Cleveland and Buffalo at 1 1/4 c. This is the opening of the grain shipping season at this port.

The fleet of steel canal boats in service between this port and New York has been sold to the Philippine Construction and Transportation Co., New York. They will be taken apart and shipped east for lighterage service at the islands.

The steamer Visitor was ordered here to take Major Dan C. Kingman, Corps of Engineers, U. S. A., and his assistants on a cruise. They will cover the points in the district lying east of Cleveland, making a general inspection of the work now under way.

The Empire and Badger State have at last been purchased by the Barry Bros., Chicago, and will be taken to Bay City for general repairs and to be re-boilered. The present intention is to replace them in the freight and passenger service between Chicago and Milwaukee.

The crew of the John Craig quit on her arrival at Ashtabula on Wednesday, engineer John Gallan resigned, then Capt. W. H. Landgraff with the balance of the crew. Mr. Gilchrist shipped Capt. Frank Powell, filled in the rest of the crew and the vessel cleared without loss of time.

It is now up to the Solicitor-General of Ohio to refuse accepting any taxes from the fishermen since he can offer or provide no protection to the industry. The fisherman say it is just as criminal to steal gas out of the mains as it is to take fish out of their nets. An Ohio J. P. says not.

Mr. A. C. Heron, surveyor for Lloyd's Register, London, visited Barberton, O., this week to inspect the battery of Niclausse boilers building by the Sterling Co. for J. J. Hill's two large steamers under construction at New London, Conn. Should the work increase, as it is now likely to do, Lloyd's Register people will require more talent on this side than they have had hitherto and they can't recognize this feature any too soon.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau for the week ending July 24th. Prevailing wind direction during the week, south, highest velocity, 25 m. on 22d; mean temperature for week 77; highest temperature, 91 on July 21st, lowest 61 on July 20. Sunrise and sunset data, computed for local time at Cleveland, July 26, sun rises 4:47, sets 7:25, July 29, sun rises 4:49, sets 7:22; Aug 1, sun rises 4:52, sets 7:19.

The strike of the iron and steel-workers may be felt in some industries but it doesn't affect shipbuilding in any way as orders are being punctually delivered. When the Amalgamated Society corrals all non-unionists, it will, possibly, be time for the Steel Corporation to think about making overtures, looking towards a resumption of work, otherwise, there is little use of trying to come to a conclusion with op-

posing ranks of labor and no effort is being made to do so.

The marine editor of the Leader seems to be putting his right foot first in good shape these times. The columns announced on Wednesday the following: "The Leader calls attention of marine men to the appearance in the port list of this issue, of the report of the arrivals and clearances from Two Harbors, Minn. This report has not been published in any lower lake paper for a number of years past, but, in order that the record of the lake doings might be complete, the Leader has made special arrangements with a competent correspondent at Two Harbors, and the report will be published daily hereafter. This report is to be obtained in no other paper in Cleveland." And I may add that Two Harbors is a very important port for Cleveland to cover, as it is now the greatest iron ore shipping point in the world.

In an interview with Major Dan C. Kingman, Corps of Engineers, U. S. A., on Tuesday, he said: "I think it important to invite attention to the necessity of securing a greater depth in the harbor than that afforded by the twenty-one-foot depth now proposed, which is measured by the mean lake level. The mean lake level was determined many years ago and is an arbitrary plane hardly reached at all by the highest water during the year. It would seem more logical to refer all depths to mean low water and to avoid the necessity of minus gauge readings. Gauge observations at Cleveland for the past year show that there was not a single month during the year in which the mean level of the water surface was as high as the datum known as mean lake level. The minimum level for any one month was 2.7 feet below the datum, and the mean for the entire year was 1.2 below it." Major Kingman is also much in favor of the district having its own dredging plant, and said that for \$250,000 and an annual maintenance fund of \$60,000 a suitable construction could be kept in operation at any Lake Erie point where it was found necessary.

#### LETTERS AT DETROIT MARINE POST OFFICE

JULY 24, 1901.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Barnet J., Sage  
Beck Oscar-2, Queen City  
Bowhall Wm., Cadillac  
Baker Wm., Edenborn  
Barks Lewis  
Blakley Wesley-2.  
Burke Thomas P.  
Burnett Guy. H.  
Barnard Henry  
Batlen A. J.  
Cornell Hart, Alva  
Carr Wm., Lenty  
Clarke Geo., 127  
Carr Chas. S., Monitor  
Collier Geo. L., Shawnee  
Connery James, Livingstone  
Cole W. H., Queen City  
Doyle Frank, Chicago  
Delevergne Earl, A. B. Wilson  
Dorland Wm., Vega  
Danney Chas., Tuscarora  
Drake Frank, Coot  
Dempster Sanford  
Donald F. C.  
Donaldson A. S., 101  
Erhart John  
Egan Dan, Leland  
Eber Fred, Helena  
Eaid C. T.  
Francis A. P.  
Foster Geo. H.  
Green Jno., Egan  
Girard Levi  
Gilbairt Robt.  
Gelleoray A. M.  
Hamm Art. A. B. Wilson  
Harringer Frank  
Harvey Nelson  
Hansen Jno.  
Hanna S.  
Harris Daniel C.  
Hessell Wm.  
Haines Jay  
Holland Chas., Iron Duke  
Ingles Robt., Armour  
Johnson Christian, Iron Queen  
Jackson Carl  
" Arthur, Green

Kloppenburger F. F.-2, Alva  
Kininge John  
Kelly John  
Livingstone Wm., Albright  
La Tarte Edw., Chickamauga  
Lange Fred., Flint  
Luxton Hugh  
Lahey Arthur  
Lanphere Julius G.  
Livingstone Henry  
Lynn Samuel F.  
Marten Jno.-2, Harper  
Maguire Wm.-3, Holden  
Mack John, Presque Isle  
Murray J. H.  
Marshall Wm.  
Morgan Al. F.  
Moss James  
Munns Hard  
McKenzie Danl., Penobscot  
McNeill Neil, Sachem  
Nelson James E., Vega  
O'Neil John  
Pliske E. C., Matao  
Phillips A. J., G. Stephenson  
Pennington Jos., Alva  
Pratt Geo., Oneonto  
Patten Claude  
Pierce Miles  
Patterson F. W., Iron City  
Rattray Chas., Manhattan  
Redner Furman D.  
Russell Robt. T., Wilson  
" Peter J.  
Ritchie W. S.  
Shaffer Frank, Falcon  
Sullivan Mrs. Millie  
Schaeffer Michael  
Sheldon Swen  
Stevens Jno. J.  
Seymore Mrs. John  
Schweizer Wm.  
Tucker Harvey  
Wing Geo. A.  
Will Herman  
Whitty Wm. W., Monitor  
Walker Edw., Queen City  
Welch Mrs. Geo., Rees

#### AN IMPORTANT CABLE CHAIN CONTRACT.

The Newhall Chain Forge & Iron Co., manufacturers of high grade hand made dredge and steam shovel hoisting chains, close link and stud link yacht and ship cables, special steel loading and skidding chains, shackles, swivels and other forgings, with offices located in the Havemeyer building, 26 Cordlandt street New York, have just secured the contract for the making of the large anchor chain cables required by the Eastern Ship Building Co., of New London, Conn., for the two large steel steamers, which the latter company are building for the Great Northern Steamship Co., and Northern Pacific Railroad.

These steamers will be the largest freight carrying steamers ever built in the world and are designed for the foreign carrying trade between the United States and the Orient.

The chain consists of 660 fathoms of 3 1/8" diameter iron and 300 fathoms of 1 7/8" diameter iron, stud link cables, the former being constructed in shots of 15 and 30 fathoms each, which are connected with 3 1/8" shackles and swivels. Each link of this large sized chain will measure approximately 19 1/2" in length and about 11 1/2" in width, and will weigh about 100 lbs. to the foot, so that the total tonnage represented by this one order will equal about 215 tons.

The making of the 3 1/8" chain will be the largest ever attempted in this country, if not in the world, and the Newhall Chain Forge & Iron Co., are to be congratulated in representing in this order the well known iron expert and chain maker Mr. Eli Attwood, formerly of Staffordshire, England, and now the president, general manager and superintendent of the Lebanon Chain Works, in whose shops this chain will be made.

The chain will be inspected and tested under the supervision of inspectors of Lloyd's Registry of England.

The competition on this order between England and the United States was exceedingly close, and we are happy to think that the usual enterprise and perseverance of our manufacturers won out in this instance.

#### FLOTSAM, JETSAM AND LAGAN.

They had been married not long when she asked him how lobsters were caught; "Oh, come, Mary," he said, "for heaven's sake don't rub it in like that."—Ex.

A. Miscampbell, Superintendent of the Algoma Central Steamship line, who is M. L. A. for East Simcoe, Ont., will not contest that constituency at the next election.

were fixed so firmly in the Dixon pencils, and stuck so fast to the wood that he could not use them in his business, and that he was very sorry, for he would like to trade with us, but he would have to place his orders with some other pencil concern.—Graphite.

From experiments now being carried on by the Cunard line in the Atlantic trade it appears that the Marconi system of wireless telegraphy opens communication at a distance of from 40 to 50 miles, the most satisfactory results being obtained at the lesser distance.

There are only two six masted sailing vessels afloat, the Wells and Percy but they recently drew together and collided off Cape Cod. It is singularly so in practice, that vessels draw together in a flat calm, but we were not aware that there was any six masted affinity or magnetism.

Capt. James Wood, died at his home in Toledo, last week, aged 72 years. He was a native of Scotland, and came here when 18 years old, and sailed during navigation. Ten years ago he resigned command of the schooner John Schuette and retired. A wife and one son survive him.

A wrecking company claims to have found the location of the sunken steamer City of Rio de Janeiro, lying somewhere off the Golden Gate, so also does a spirit-directed agency who makes no bones about talking with and to any old Beelzebub, or is it Belzebug?

The Department of Marine issues in book form a list of vessels on the registry books of the Dominion of Canada, but it is only brought out every three years. The last one was up to Dec. 31, 1898, so that there will not be another until next year, bringing the record up to Dec. 31, 1901. It has been suggested that an annual supplement be issued so as to bring the information up to the latest requirements.

Capt. John Ackerman, formerly of the steamer Nyack, is now master of the carferry Marquette in place of Capt. Peter Kilty, who, after taking a month's vacation, will take charge of the Pere Marquette Co.'s new carferry now approaching completion at Cleveland, and which will be ready for service Aug. 15. Capt. Ackerman has served several years with the Ann Arbor Co., and is regarded as a first-class carferry man.



## LIQUID FUEL.\*

With regard to the various methods of burning fuel, Mr. Orde had understated the results obtained in burning oil fuel by the better-known methods, such as spraying it by means of steam, also by injecting it into furnaces in a pure state under pressure with a spraying burner without the assistance of steam or air. As the results of exhaustive experiments carried out by the firm with which he (Mr. Traill) was connected, it was clearly demonstrated that it was not necessary, as stated in the paper, to line the furnace with fire bricks and to have large furnace space. They had been able to retain the ordinary furnace arrangement with the bars in position as required for coal burning, and to burn oil by means of either the usual steam burner or the spray burner before mentioned, and to get perfect combustion in a small space; the results they had obtained by these methods of burning with the introduction of the furnace bars, covered with broken fire brick, was something like 14 to 15 pounds of water evaporated per pound of fuel from and at 212 degrees. They had been using the ordinary steam burner for the last ten years in steamers for the Caspian Sea, and latterly in large ocean-going steamers trading between this country and the far Eastern ports. Until quite recently oil was burnt in the furnaces with all the coal-burning gear removed, but in more recent practice the furnace gear is retained, the fire bars being well covered with broken fire brick; in this way they had been able to burn sufficient oil and to obtain as much power from the boilers as would be obtained in the ordinary way by a coal fire burning best coal, and he thought that was all that was necessary. By keeping the fire bars in the furnace the efficiency had been very much increased. The type of burner known as the dry spray burner, and previously referred to, was coming rapidly to the front, especially in merchant steamers. It was undesirable to use a steam burner, because the steam used in spraying the oil was lost, and had to be made up by evaporators. The dry spray burner did away with the use of steam, which could not be returned to the condenser. Further on, Mr. Orde mentioned that "the vapor thus produced can be completely oxidized by the amount of air chemically necessary, and a larger quantity of oil can therefore be treated in the same furnace space than by either of the two other systems." He (Mr. Traill) did not think that was correct, because without the firebars in the furnace a very much greater quantity of oil could be burned and a greater power obtained with an ordinary steam burner, but not so efficiently. In Mr. Orde's system steam is used in spraying; he (Mr. Traill) thought it was better to do away with steam altogether, in order not to increase the evaporating plant, which was always an objectionable feature. Coming to the advantages of using liquid fuel, and the methods of carrying it, Mr. Orde stated that with oil fuel having a flash point of 200 degrees, there should be no risk of explosion whatever. Lloyd's drew the line at 200 degrees, so far as their classification was concerned. A very important question in connection with oil fuel arose from the difficulty of getting rid of the water which was often intimately mixed with the oil. Most oils contain a small quantity of water so intimately mixed that it cannot be easily separated except by keeping the oil standing for a long time. The reduction in evaporative efficiency of oil so mixed with water was so small that it could be neglected entirely. But, again, there was also in many cases a large quantity of water mixed with the oil which could easily be separated. To get rid of this water an arrangement known as the Flannery-Boyd (patent) system, whereby the water is separated effectually, overcomes the difficulty. Mr. Orde claimed for his method of oil burning that he could burn oil containing a very large proportion of water, but it would certainly be an objectionable feature if oil on board ship had so much water as to interfere with the evaporative efficiency, and thus reduce the power obtainable from the boilers, with consequent reduction in speed; it therefore became necessary to have the water separated in order to give the best results. Another feature in regard to the separation of water arose from a method of carrying the fuel, and which led to the Flannery-Boyd system being invented. To fit old vessels, particularly, for carrying it, meant a very large alteration in the bunkers, and to re-construct them would be a matter of very serious expense. Now, this difficulty was overcome by carrying

the oil alternately with water ballast in the double bottom tanks, and in other spaces generally used in steamers for water ballast, and in the case of oil steamers also in the coffer dams, which spaces are already oil-tight. But the great objection to the carrying of the oil in the ballast tanks was that water ballast could not be removed entirely from the tanks; this remaining water, when oil fuel was put into the tanks, became mixed with the oil, and in order to get rid of it it was passed through the Flannery-Boyd separators on its way to the furnaces. Lloyd's had dealt with the matter, and practically now any ordinary steamer could be readily fitted, at comparatively small cost, to carry oil fuel in the ballast tanks, thus obviating any structural alterations. The great obstacle to the adoption of liquid fuel, viz., the cost of providing suitable spaces for its accommodation, was therefore overcome by this system. He had just read an interesting account in the papers, showing that the use of oil fuel on board ocean-going vessels was now far beyond the experimental stage, and also showing the great reduction in stokehold labor. A vessel belonging to the Shell Line (M. Samuel & Co.) had just completed a 10,000-mile voyage, burning entirely oil fuel, the number of firemen being reduced from twenty to ten. The vessel discharged the whole of her cargo, over 5,000 tons of oil, in London with her donkey boiler using oil fuel, the only coal on board the vessel being that required for the galley.

## CALUMET RIVER—SOUTH CHICAGO.

(BALTIMORE &amp; OHIO RAILROAD BRIDGE.)

The attention of the officer of the Corps of Engineers, U. S. A., in charge of the conservancy and improvements of rivers and harbors within the Chicago district, is called to the very inconvenient and dangerous location of the protecting pier of the Baltimore & Ohio railroad bridge in the Calumet river.

This artificial obstruction is the cause of much annoyance and anxiety to captains frequenting the port, and not a little damage to vessel property. To get through the draw vessels are compelled to make a reverse curve, with the attendant danger of colliding with or striking vessels moored at the Iroquois Iron Co. dock, north of the bridge, and especially so when there is a fresh breeze or the steamer is without a tug. Three vessels have thus unintentionally damaged other boats lying at this dock, and subjected themselves to more or less extensive damage claims for so doing, although the avoidance thereof was impossible under the conditions.

Those regularly trading to South Chicago observe great caution and advise others so to do when passing this draw, and the statement is made that it would appear as if the railroad company's wishes in the matter were solely considered when the construction was authorized by the government, and this, too, to the detriment of the interests of navigation, as a bascule bridge would have been better for all concerned.

The present inconvenience and danger is so marked that a joint protest from masters compelled to use this draw is now being considered for presentation through the proper channels to those having authority in this matter.

## STATEMENT OF THE VISIBLE SUPPLY OF GRAIN.

As compiled by George F. Stone, Secretary Chicago Board of Trade, July 20th, 1901.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo.....	1,523,000	299,000	474,000	57,000	82,000
Chicago.....	3,877,000	6,512,000	1,261,000	116,000	1,000
Detroit.....	237,000	77,000	2,000	5,000	3,000
Duluth.....	2,326,000	1,912,000	1,010,000	81,000	41,000
Fort William, Ont..	715,000	.....	.....	.....	.....
Milwaukee.....	400,000	477,000	259,000	9,000	16,000
Port Arthur, Ont....	130,000	.....	.....	.....	.....
Toledo.....	183,000	514,000	81,000	14,000	.....
Toronto.....	40,000	.....	1,000	.....	7,000
On Canals.....	183,000	43,000	288,000	77,000	20,000
On Lakes.....	944,000	750,000	215,000	9,000	.....
On Miss. River.....	261,000	.....	.....	.....	.....
Grand Total.....	27,681,000	13,242,000	6,341,000	433,000	341,000
Corresponding Date, 1900.....	45,631,000	13,525,000	6,428,000	596,000	514,000
Increase for week.....	.....	.....	.....	.....	.....
Decrease " ".....	298,000	825,000	1,080,000	104,000	50,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

## SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

**Collision—Moored Vessels—Precautions Required in Fog.**—The fact that there is no rule requiring vessels to display lights or give signals during a fog, while moored to a wharf, does not relieve them from the duty of taking such precautions where the circumstances are such that ordinary prudence requires it. *The Kennebec*, 108 Fed. Rep. (U. S.) 300.

**Admiralty—Calling in Charterer.**—A proceeding on petition of the owner and claimant of a libeled vessel to call in the charterer to show cause why it should not be condemned for damage resulting from the collision for which the libel is within the power of the court under general admiralty rule 59, as it is clearly within the spirit, though not within the words, of the rule. *The Barnstable*, 21 Sup. Ct. Rep. (U. S.) 684.

**Towage—Liability of Tug for Injury to Tow.**—A tug held in fault for an injury received by a schooner in tow, by striking against the piling at the side of a railway bridge, the draw of which was not opened in response to the tug's signal, on the ground that it failed to act with sufficient promptness in stopping the tow, as was its custom, being familiar with the locality and with the fact that the draw might be found closed, when the tug came in full view of it, on account of the near approach of trains. *The C. F. Roe et al.*, 108 Fed. Rep. (U. S.) 285.

**Navigable Waters—Negligent Operation of Drawbridge—Injury to Passing Vessel.**—The owner of a drawbridge across a navigable channel in the Duluth-Superior harbor held liable in damages for injury to a barge in tow, on the ground that the bridge tender negligently failed to give the signal to warn the approaching tug and tow of an obstruction which prevented the opening of the draw until it was too late for the barge to stop, in consequence of which she came in collision with the draw. *Hartley vs. American Steel-Barge Co.*, 108 Fed. Rep. (U. S.) 97.

**Salvage—Computation of Award—Value of Property Salvaged.**—A cargo of sugar in port, on which the duty had been paid, subject to repayment in case of its destruction before landing, was exposed to danger of injury or destruction by fire, and the court made an award to the salvor equal to ten per cent of the value of the sugar. Held, that such award must be computed on the value of the sugar with the duty unpaid, since that was its actual value and the amount saved to the owner. The remaining sum, which went to make up the market value of the sugar with the tax paid, represented no property interest in the thing salvaged, but merely the tax, which could not properly be the subject of salvage; and its loss, moreover, would have been the loss of the government, which had no interest in or relation to the property, and could not be made a party, or affected by the salvage award. *Cornell Steamboat Co. vs. 1,883 Bags of Sugar*, 108 Fed. Rep. (U. S.) 277.

**Collision—Suit for Damages—Right of Recoupment.**—Where a vessel, libeled for collision by the owners of the other vessel on their own behalf and as bailees in behalf of some of their cargo owners, took no steps to bring in libellant's vessel under admiralty rule 59, or to raise the question of her liability by any pleading, and consequently her liability to her cargo owners under the terms of her bills of lading was not adjudicated, upon a finding that both vessels were in fault the respondent is not entitled to recoup a moiety of the cargo damage against the vessel damaged adjudged in favor of libellants; and, for still stronger reasons, there can be no such recoupment, on account of cargo damage recovered by intervening libellants, against that recoverable by libellants on behalf of other cargo owners, the effect of which would be to leave such cargo owners unpaid, since, under the pleadings, they cannot be given a decree therefor against libellants or their vessel. *The New York*, 108 Fed. Rep. (U. S.) 102.

**Shipping—Breach of Charter—Liability of Vessel.**—Libellant, a wrecking company, chartered a steamer to be used in salvaging the cargo of a vessel which had been wrecked in the West Indies. The locality and the nature of the work were known to the owner, and the charter gave libellant the use of the vessel for about six weeks. When the salvage had been but partially completed, and before the expiration of the time limited, the master refused to stay longer, alleging insufficiency of the anchorage, and his fear of storms. The proofs showed that storms were not usual at that season, that the weather had been at all times pleasant, and that the vessel was not in any great or unusual danger by reason of the nature of the anchorage. Held, that under such facts the refusal of the master to remain was a breach of the charter, which rendered the vessel liable for the damages sustained by the libellant from the forced abandonment of the work. *The Helios*, 109 Fed. Rep. (U. S.) 279.

**Shipping—Delivery of Cargo—Local Law Requiring Delivery to Customs Officers.**—Where, by the local law and usage, dutiable goods imported are required to be delivered to the customs authorities, who assume the responsibility of thereafter making delivery to the proper person on payment of the duty, a delivery by the ship to such authorities is a good delivery as between carrier and shipper. *The Asiatic Prince*, 108 Fed. Rep. (U. S.) 287.

\*Discussion on a paper read before the Northeast Coast Institution of Engineers and Shipbuilders.



## THE MISSISSIPPI RIVER.

"I have been very much impressed with the greatness of small things in late years," said an old steamboat man, "and the Mississippi river has furnished me some rather good examples. I can understand now why Cæsar looked out upon the Nile in such curious amazement and offered all that he stood for to the Egyptian priest if he would show him the source of that wonderful river. But the antics of the Nile look like insignificant nothings to me when compared with the strange conduct of the stream that oozes out of the earth at Itasca and hurries on its murky way toward the Gulf of Mexico. Towns along the Mississippi that stood right on the bank of the river have been isolated even in my day, and there are, too, all along the course of the stream, little empires in view where the river has encroached upon small centers of population, finally eating the earth away and forcing the inhabitants to seek other quarters. There are hundreds of these places that are almost forgotten now even by the men who are constantly on the river.

"What brings about these violent changes along the banks of the river? Not floods. It is just the ordinary doings of the stream. In the first place the current of the Mississippi is wonderfully swift, and the sediment deposited at any point where resistance to the flow is offered is very great. Tie a string to the neck of a bottle and sink it with the mouth of the bottle up and open.

"If held in one place where the flow is normal, in an extremely short period of time the bottle will fill with sediment. Stretch a net across the river, a net so finely woven that nothing but the pure water can pass through, and, on account of the rapidity of the flow and the greatness of the deposit of sediment, almost in a twinkling the river would be dammed at this point. Experts have admitted this. This brings me to the point of my narrative.

"The flow of currents is frequently interfered with by sunken boats, perhaps by a jackstaff sticking up above the surface. The current is diverted by degrees, generally touching the far side of the stream a mile from the point where it again meets resistance, and immediately begins the building of a sandbar. I have seen thousands of examples of this sort during my career on the river, and I have known instances where the root of a tree or the mere twig of a willow have brought about a similar condition. These things have tended to make a riddle out of the river; yet the stream, after a while, will be handled so as to undo all that it has accomplished in this way."

## RULES OF THE ROAD ON THE LAKES.

The memorial to the Minister of Marine from the Lake Carriers' Association, published in our April issue, will doubtless receive from Sir Louis Davies the careful consideration that its importance demands. It is most desirable that on the Great Lakes, the jurisdiction over whose waters is divided between Canada and the United States, there should be a uniform system of rules of the road. The Railway and Shipping World, Toronto, says: \* \* \* In the case of the rules of the road on the Great Lakes, the Minister of Marine is asked to adopt rules which have been framed by the United States Government without the Canadian Government having been consulted in their preparation. Under the circumstances we think it advisable that the request of the Lake Carriers' Association should be granted, but the Dominion cannot be expected to keep on adopting rules framed at Washington without having some say in their preparation, and to secure uniformity of action for the future it would undoubtedly be advisable for rules of the road on the Great Lakes to be made the subject of consultation between the Ottawa and Washington governments, so that no changes may be promulgated in either country until they have been mutually agreed upon between the two authorities.

## ONE HUNDRED YEARS AGO.

From The London Times of July 4, 1801, reproduced in The Times of July 4, 1901:

An experiment took place on Wednesday on the River Thames for the purpose of working a barge or any other heavy craft, against tide, by means of a steam engine, on a very simple construction. The moment the engine was set to work the barge was brought about, answering her helm quickly, and she made way against a strong current, at the rate of two miles and a half per hour.

## A CORRECTION.

In the article "On the Deviations of the Compass," in last issue, page 9, it should read:

The formulæ for the semi-circular deviation is:

$$\sin s = \frac{F \sin(e + a) \cos q}{H - G \cos(2e + r)}$$

and the quadrantal deviation is found from

$$\tan q = \frac{G \sin(2e + r) + A}{H - G \cos(2e + r)}$$

e is the compass course;  $\frac{F}{H} = \sqrt{B^2 + C^2}$ ;  $G = \sqrt{D^2 + E^2}$ ;

$\tan a = \frac{C}{B}$ ;  $\tan r = \frac{E}{D}$ . As the denominator is the same in

both formulæ and known from previous computations of the quadrantal deviation it is very easy to find s.

The typographical correction consists of making a capital letter of g in the second and fifth line and omitting a lower case a in the third line.

## LAKE LABOR UNIONS.

Harry C. Barter, of Detroit, who has just been elected secretary-treasurer of the International Longshoremen's Association for the tenth consecutive year, succeeded in getting through the convention this year a resolution whereby all branches of maritime labor can become affiliated with the Longshoremen. As secretary of the Longshoremen Mr. Barter has been an indefatigable worker, and it is through his efforts principally that the association has increased until it now numbers close to 100,000 men.

In looking over the labor situation as it concerns marine men, Mr. Barter has found that the association of which he is secretary has enrolled in its membership ten times more men than all the other marine organizations combined. His theory of the union labor situation is that marine workers would be more powerful if all were in one organization, instead of a dozen different ones, as at present. He is at work now and has been for some time past to bring about this result. Within the past year the oilers and water tenders have become associated with the longshoremen, and the marine firemen also have an I. L. A. charter. The convention just closed took in a branch of the marine engineers, and further amalgamations are in sight.

## THE REQUISITE TOOLS.

Senator Hanna, in his address at the Buffalo Exposition on Friday last, Ohio day, in talking of Pan-American trade, reduced the problem to its simplest terms when he said: "We consume everything they (the other American countries) raise and we produce everything they need. The conditions for a successful business are all there except the tools of the trade. The tools of commerce are banks and lines of communication, and without them it is as impossible to accomplish any large results as it would be to try to build a palace with a jack knife. We are supplying the markets of Europe because thousands of swift ships link those shores direct to ours, and exchange of money is as simple as in this country. But to send goods to South America we must ship first to Liverpool or Hamburg.

"Trade does not follow such roundabout lines. We must have fast ships to send goods direct to South American ports and we must have banks and financial institutions for the direct settlement of balances. Equipped with these tools of commerce it will be no more possible to check the progress of inter-American business than it is possible to restrain the mighty current of the Niagara."

## THE EARTH'S RIGIDITY.

What sort of matter fills the interior of this planet has long been a subject of speculation. Lord Kelvin arrived at the conclusion that the earth's mass must possess greater rigidity than glass or even steel, otherwise the moon would raise a tide on its surface. Strange that the messages received at Newport, Kew, Bidstone (near Liverpool) and Edinburgh—observatories of earth tremors—confirm this theory! This finding does not mean that the world is solid all through. Beneath a firm exterior, some 25 to 30 miles in thickness, there lies probably a compressible yielding zone of molten liquid and gaseous elements—at a temperature such that no weight above could compress into liquid or solid—while all below is dense white-hot into the earth's center. Even gases under the load of miles of rock would have a marvelous elasticity.

## NOTES.

JOHN WILEY & SONS, New York, have recently published the first volume of "A Treatise on Electro-Magnetic Phenomena and the Compass and its Deviations Aboard Ship, Mathematical, Theoretical and Practical," by Commander G. A. Lyons, U. S. Navy.

THE Great Northern Railway of Canada is already doing a considerable grain shipping business at Quebec, and up to the end of June had loaded six vessels for European ports. The grain is taken over the Canada Atlantic from Depot Harbor to Hawkesbury and it is expected that about 5,000,000 bushels will be carried by that route this season. Last year the Canada Atlantic carried close on to 15,000,000 bushels from Depot Harbor, the whole of which went via Coteau Junction, as the G. N. R. line was not then open.

AN invitation has been extended to a number of prominent trades unionists in Great Britain by the well-known shipping firm of Elder, Dempster & Co., Liverpool, offering free passage, coming and going to the United States. The purpose is to enable them to ascertain the exact condition of labor and employment obtaining here, and to secure a knowledge of the advantages, if any, over British manufacturers possessed by Americans in tools, labor saving machinery and all natural and artificial facilities special to the American continent.

THE total number of casualties to persons on account of railway accidents during the year ending June 30, 1900, was 58,185. The aggregate number of persons killed in consequence of railway accidents during the year was 7,865, and the number injured was 50,320. Of railway employees 2,550 were killed and 39,643 were injured. One summary shows that in the course of thirteen years ending June 30, 1900, in consequence of railway accidents, 86,277 persons were killed and 469,027 persons were injured. The injuries reported varied from comparatively trivial injuries to those of a fatal character. The casualties for the period mentioned occurred to persons as follows: Employees killed 38,340, injured 361,789; passengers killed 3,485, injured 37,729; other persons (including trespassers) killed 54,452, injured 69,509.

THE Newport News Shipbuilding and Dry Dock Co. at Newport News, Va., have just completed one of the largest dry docks in America. It is known as dock No. 2, to distinguish it from the old dry dock. It is a timber dock, with masonry entrance, and an immense steel caisson used as a gate. The pumping plant for the dock consists of two main centrifugal pumps of about 85,000 gallons capacity per minute each, and one drainage centrifugal pump of about 12,000 gallons capacity per minute. These pumps are driven by electric motors, the pump and motor shafts being vertical. The large motors are each of 1,000 horsepower at 500 volts. The small motor for the drainage pump is 350 horsepower at 250 volts. The electric current driving these motors is carried by underground cables from the main power house about 700 feet distant. Following are the dimensions of the new dock: Extreme length, 860½ feet, on bottom 804 feet, width on top 162 feet, on bottom 80 feet, depth over miter sill at mean high water 30 feet. The second and older dock is 573 feet in length on bottom and carries 24½ feet over miter sill.

LIEUT. COMDR. S. W. B. DIEHL, U. S. N., for the last two years or more in charge of the compass experimental room of the Hydrographic Office, has been detached from that duty and ordered to command the Eagle, converted gunboat, on special service, relieving Lieut. Comdr. F. F. Fletcher, U. S. N., this latter officer going on waiting orders for a few weeks. Under the skilful supervision of Lieut. Comdr. Diehl the compass experimental room has been of growing value to the naval service, and also to the merchant marine, by reason of the solution of several interesting problems involved in the construction of steel ships. The new method of compass compensation is largely due to the investigations of Lieut. Comdr. Diehl.—Army and Navy Journal. This is the officer that wanted to change the method of "boxing the compass" so that it would read from 1 to 360 in numbers instead of by points as at present in use. It is quite possible that if left any longer on the compass detail Comdr. Diehl would have advocated the adoption of a powerful telescope mounted on a tripod to stand before the helmsman, so that he might be made to steer more accurately and minutely.





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CLEVELAND, O., JULY 25, 1901.

At the present time there are 247,000 seamen in the British mercantile marine and 119,000 in the navy. The French navy carries 50,000; Russian, 45,000 and Germany 30,000.

We have always been prepared for a kick from any or all interests over which the steamboat inspection service exercised a controlling influence, but, when the head of the service throws his hands up and confesses inability to secure any desired legislation, it is in order to place a new hand at the bellows.

"To what base uses." etc. This thought will no doubt occur to many when they come across an announcement of a red book, yellow book, blue book, etc. It was formerly the prerogative of governments to so name national publications treating on particular subjects as specified by the color named. Nowadays any old two cent advertising fake or the more pretentious issues of trade literature is so piratically denominated.

Not that we have had chain cables parting, with the consequent loss of vessels stranding, etc., as the lakes have been remarkably clear of such casualties. At the same time, we note that cable chains are now being properly tested and certificates issued on same. We are pleased to mention this commendable departure and look forward to the day when all chains used for cables will bear a reliable imprint and be worthily tested.

The International Longshoremen's Association is a growing power in the field of labor, but why the professions should try to invade it is a poser. Engineers, following the lakes for a living, are not longshoremen by any stretch of the code, some of the engineers uphold their trade as a profession, however, be this as it may, it now looks as if the president of the Marine Engineers' Beneficial Association would also be compelled to join the ranks of the longshoremen if he is to longer hold office as the chief representative of the engineers' lodges.

These are the days when people crossing the Atlantic may be entertained by sighting a few ice bergs meandering southward in the drift of the polar or Labrador current until the warm waters of the gulf stream are met with. North Atlantic navigators are deeply indebted and correspondingly grateful for the excellent advices furnished by the United States Hydrographic Office and published in the monthly North Atlantic Pilot Chart, which not only shows the location of ice bergs, belt of fogs and storm tracks but marks everything afloat from derelicts to drifting logs of timber.

## HEAVY AND LONG DISTANCE TOWING.

The greatest concern is expressed regarding the safe delivery of the large steel floating dock, now drawing towards completion at the Sparrows Point Works, Baltimore, Md., and under requisition to be transferred to Algiers, opposite New Orleans, La., for which point it is expected to start in the course of the next sixty days.

A still longer and more risky tow will be that of the British-built self-docking steel pontoon dock now lying at Havana, Cuba, and recently purchased by the United States Government with a view to its removal to the Philippines, although its present location, or at the adjacent island of Porto Rico, is the place where such a dock ought to be kept—however, that question is in the hands of the "powers that be."

In the light of past experiences, it is not such a stupendous undertaking as it might appear at first glance, to make either of these tows, to Algiers or the Philippines. In the former case, there is a long stretch of protected waterways, with the ever-present alternative of seeking a safe port or anchorage, and, while it is a much longer tow, many similar features are apparent in the transfer to our eastern possessions through the low latitudes which the tow can traverse until nearly reaching its destination in Luzon, should it be ultimately determined to send it there.

In making these tows successfully, the Government, or more strictly speaking, the Navy Department, will no doubt wait to witness the experiences of the private firm in its completion of the Algiers contract. Without doubt the Sparrows Point people will avail themselves of the most recent improvements, inventions and seagoing securities offered in towing world circles, and to this end, we look to see the most powerful automatic steam towing machine that has ever been built, brought into use for this purpose and possibly later transferred for use and aid in towing the Havana pontoon dock to the Philippines via the Suez Canal. In fact, as a precautionary measure, the Navy Department ought to have one or more of these valuable towing machines constructed and ready for dispatch or use at immediate notice wherever long distance or heavy towing seemed likely to eventuate.

Assuming that the construction is perfect and delivery at destination accomplished, the Algiers contract adds another industry to the United States in the future of steel pontoon building to be used for docking purposes. If our figures are correct, this Sparrows Point contract involves the largest steel pontoon dock (in point of length at least) ever constructed, viz. 525 feet, while the latest British built dock, just completed to the order of the Spanish Admiralty and formerly intended for the port of Olongapo, P. I., and now destined for the Island of Minorca, is only 450 feet in length between perpendiculars.

The record of ocean towing is a lengthy one, although, for obvious reasons, there is nothing very stupendous to the credit of those engaged in this industry in the United States, and, consequently, the tow around Cape Hatteras of this large, unwieldy and costly structure will also mark a new departure in the adaptation, skill and other national attributes which we now possess, in mastering, or in other words, working more completely in harmony with the elements of nature, and in so doing, successfully accomplish results unheralded in the past records of special and long distance ocean towing.

## SPEEDY PASSENGER STEAMERS.

The success attending the construction and trial trips of the steam turbine propelled passenger boat King Edward, built for service on the Clyde, will no doubt cause increased interest to be felt relative to the adoption of this mode of propulsion for traversing protected waterways.

The principal hull dimensions of this, the first money earner to be fitted with turbines, are, 250 by 30 by 10½ feet. The speed on her initial trials show 20.48 knots or practically 23 miles an hour, with the always absolute certainty that an increase can be made over this speed when the stiffness is worn off and the machinery becomes easy running, although it is stated that there is a complete absence of vibration and practically noiseless machinery in the turbine motorer.

To obtain the forgoing excellent results the estimated horsepower is placed at 3,500, the average revolutions being 740 per minute and the total weight of machinery 66 tons, including shafting, propellers and auxiliaries connected with the propelling machinery.

Considerable weight is placed on the fact that passenger accommodation is greatly increased owing to the motors

resting below the main deck, her molded depth being only 10½ feet. The opening for the machinery space is small and the length occupied is two frames less than if fitted with ordinary engines.

A due share of the credit regarding speed must of course be awarded to the splendid lines on which the hull is built, as she has been given a remarkably sharp and easy entrance, moderate dead rise and clear, fine run, the place and lightness of the engine contributing to this form and assisting in lowering the center of gravity while giving good stability without the necessity of hard bilges or a long flat floor.

Owing to the present demand for high classed, speedy, light weather steamers, having a large passenger capacity, and the probability that future requirements will no doubt render necessary the construction of such craft for lake and river service, the proved work of the Parsons steam turbine machinery is of the utmost and immediate importance to those connected with the output, management and handling of this class of tonnage, as differing from the speedy class of light construction and all power recently put afloat for the various maritime powers as torpedo boat catchers or destroyers, and foremost among which is the water cleaver Turbinia, also propelled on the turbo-motor principle.

VESSEL owners, underwriters and parallel interests are entitled to learn who furnishes and where, when and how licenses are issued to officers placed in control of their property. The Supervising Inspector-General of Steamboats and executive head of the mercantile marine service of the United States refuses to permit his district supervising inspectors to make known who are licensed and the local inspectors dare not on the peril of their positions allow the information to leak out. By this means James Dumont appears to control, so as to corner the market in skilled labor as represented by the licensed officers. What rot this candidate for retirement will propagate next is beyond the ken of ordinary mentality. Why can't the actions of the score or more of local licensing boards be made known? Out upon such idiotic rulings.

A PETITION to Congress is now being widely signed by Mississippi River interests praying for a transfer of the river service, now in the hands of the Light-House Board, to that of the Corps of Engineers, U. S. A., by whom surveys, dredging, buoyage, etc., is being taken care of. It is just possible that a provisional arrangement of this nature would redound towards much better, as well as more punctual and satisfactory service on the Mississippi in so far as temporary aids to piloting are concerned, and this, of course, is the main, prime and only feature to be dealt with. It is very truly said that light-house service on the Mississippi is a misnomer, there being no light-houses on the river above New Orleans, nor is there likely to be in the near future.

THE Steamboat Inspection Service is being reviled among men upon earth these times, and p'raps by souls from elsewhere, "Fiddler's Green" for instance; who's to tell? Within the past few days, prominent New York citizens asked for legislation to guide and govern steamers in that vicinity, and an equally intelligent body of men in Michigan condemn the inspection part of the service on account of the loss of an unlaikeworthy vessel with nearly all hands. In the latter case the life-saving equipment comes in for a full quota of odium. The sins and shortcomings of that U. S. Board of Supervising Inspectors of Steamboats are glaring and manifold, while the regime of the Supervising Inspector General is doomed to be dammed.

In the Annual report of the American Ship Building Co contained in this issue of the RECORD, President Brown very pertinently calls the attention of his stockholders to the necessity of an adequate waterway from the lakes to the coast. The semi-natural outlet in Canadian territory is all right, as far as it goes, and it goes far enough, but, it is not an ample, adequate and navigable waterway to meet present, not to mention future requirements, besides it is not just now under the control of the United States, nor, may we add, is it likely to be for a few decades hence.

AND now it is said that the censorship of the Marine News Association in Chicago is being exercised in an arbitrary manner. Of course the daily papers can only print what is sent to them as per paid rates and contract with the Chicago News Association. We had thought the days of coloring reports had passed, however, it is better now than formerly.



SECOND ANNUAL REPORT OF THE AMERICAN SHIP BUILDING COMPANY.

FOR THE FISCAL YEAR ENDED, JUNE 30, 1901.

BOARD OF DIRECTORS.

William Brown, } Chicago.  
H. H. Porter, Jr. }  
Robert Wallace, }  
H. M. Hanna, }  
Robert L. Ireland, }  
J. A. McGean, } Cleveland.  
James C. Wallace, }  
L. C. Hanna, }  
Luther Allen, }  
L. M. Bowers, Binghampton, N. Y.  
William E. Fitzgerald, } Milwaukee.  
Andrew M. Joys, }  
Alexander McVittie, } Detroit.  
W. C. McMillan, }  
W. T. Coleman Carpenter, East Orange, N. J.

EXECUTIVE COMMITTEE.

Luther Allen, William L. Brown,  
William E. Fitzgerald, L. M. Bowers,  
Robert L. Ireland, Alexander McVittie,  
James C. Wallace.

OFFICERS.

William L. Brown, President.  
Robert L. Ireland, Vice President.  
Russell C. Wetmore, Secretary and Treasurer.  
James C. Wallace, General Manager.  
William E. Fitzgerald, Assistant General Manager.

TRANSFER AGENTS.

Corporation Trust Company of New Jersey,  
135 Broadway, New York City.

REGISTRAR OF STOCK.

Central Trust Co., of New York.  
General Offices, Cleveland, O.

To the Stockholders of the American Ship Building Co.:

In presenting the Second Annual Report of this Company, it gives your President pleasure to state that its business for the past twelve months has exceeded in volume that of the previous year, and the prospects for the coming year are favorable.

CAPITAL STOCK.

Remains unchanged from last year, viz:

AUTHORIZED.

Preferred .....\$15,000,000.00  
Common ..... 15,000,000.00  
Total.....\$30,000,000.00

ISSUED.

Preferred.....\$ 7,900,000.00  
Common ..... 7,600,000.00  
Total.....\$15,500,000.00

DIVIDENDS.

Regular quarterly dividends of one and three quarters per cent have been paid on the Preferred Stock.

PROPERTY OWNED AND CONTROLLED.

CLEVELAND, OHIO.—Construction yard, boiler shops, machine shops, three dry docks, foundry.

LORAIN, OHIO. Construction yard, machine shops, one dry dock.

DETROIT, MICH.—Machine shops, brass works, boiler shops, three dry docks, foundry.

WYANDOTTE, MICH.—Construction yard, machine shops.

WEST SUPERIOR, WIS.—Construction yard, machine shop, two dry docks.

MILWAUKEE, WIS.—Machine shop, two dry docks.

CHICAGO, ILL.—Construction yard, machine shop, one dry dock.

BUFFALO, N. Y.—Construction yard, machine shop, four dry docks.

All of the property and interests of the company are free from mortgage or incumbrances of every kind, excepting one hundred and fifty thousand dollars (\$150,000) purchase mortgage on the Buffalo plant.

ADDITIONS TO PROPERTY.—During the year the company has acquired by purchase without increasing its capital stock the two dry docks, construction plant, machine shops, etc., of the Union Dry Dock at Buffalo, N. Y. and leased the real estate, with option to purchase, on terms favorable to the company.

CONDITION OF THE PROPERTY.—All of the plants, dry docks, shops and property of the company have been kept in the best condition, the maintenance for this purpose having been charged to operating expense, and the plants are fully up to standard and equipment in every respect.

WORK DONE AND UNDER CONSTRUCTION IS AS FOLLOWS.

PLANTS.	Vessels Built.	Carrying Capacity Net Tons.	Vessels Under Con.	Carrying Capacity Net Tons.	Vessels Docked Repairs.
Detroit .....	6	35,000	6	16,000	116
Lorain .....	8	36,000	5	25,000	34
Cleveland ....	5	24,000	5	25,000	219
Bay City .....	4	15,000	0	.....	.....
Chicago .....	8	42,000	2	15,000	29
West Superior ..	5	24,000	1	6,000	69
Milwaukee ....	1	2,000	0	.....	187
Buffalo .....	3	13,000	2	6,000	193

TOTAL.

Vessels built..... 40  
Carrying capacity, net tons..... 191,000  
Vessels under construction..... 21  
Carrying capacity, net tons..... 93,500  
Vessels docked for repairs, number.... 847

(The carrying capacity is based on draught of 18 feet.)

PROSPECTS.

In the previous annual report of your President reference was made to possibilities of construction for salt water service, and it is gratifying to report that during the past twelve months contracts have been secured for the construction of eleven vessels, suitable for this service. Four of these are now engaged in Trans-Atlantic trade, and the others so far as completed are equipped and prepared for salt water, coast and Trans-Atlantic work, one being now on the way to San Francisco, and while this business is yet largely in an experimental condition, your President has reason to believe that other work of like character will be secured.

The time has come when combined and united effort should be made in the entire Great Lakes region, looking to the construction, maintenance and operation of ample waterways from the Lakes to salt water, and it is to be hoped that agitation and legislation on the subject will be promptly taken and followed up energetically until the desirable result is accomplished. It seems unnecessary to dwell on this subject in a report of this character except to call attention to the Stockholders of this Company to the importance of the question and to suggest their co-operation in bringing the subject before the public.

Your President takes pleasure in referring to the hearty co-operation and assistance given to him by the officers of the organization and his associates and to thank them for their continued interest in the management and success of the Company. Respectfully submitted,

W. L. BROWN, President.

Since this report was written this Company has lost by accidental death its Assistant General Manager and Director William E. Fitzgerald, who was also President of the Milwaukee Dry Dock Company. No words of mine can adequately express what the officers of this Company and his associates feel in this loss. Always bright, active and energetic, he gave the affairs of the Company his best efforts and no greater tribute can be paid to his memory than to say that he was, in the highest sense of the word, a man.

BOARD OF DIRECTORS AND OFFICERS.

ELECTED AT THE ANNUAL MEETING OF THE COMPANY,  
JULY 24, 1901.

BOARD OF DIRECTORS.

William L. Brown, } Chicago.  
H. H. Porter, Jr. }  
Robert Wallace, }  
H. M. Hanna, }  
Robert L. Ireland, } Cleveland.  
James C. Wallace, }  
L. C. Hanna, }  
Luther Allen, }  
Alexander McVittie, } Detroit.  
W. C. McMillan, }  
J. A. McGean, New York.  
L. M. Bowers, Binghampton, N. Y.  
A. B. Wolvin, Duluth.  
Andrew M. Joys, Milwaukee.  
W. T. Coleman Carpenter, East Orange, N. J.

EXECUTIVE COMMITTEE.

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Robert L. Ireland, Alexander McVittie,  
James C. Wallace.

OFFICERS.

William L. Brown, President.  
Robert L. Ireland, Vice President.  
Russell C. Wetmore, Secretary and Treasurer.  
James C. Wallace, General Manager.

EXCURSIONS by lake are in full swing, favorite lake resorts are more than populated, fishing is good and supplies plentiful, the Pan-American is in its glory, but nary a lake snake is being sighted.

LAKE FREIGHTS.

The freight market is firm all round with a slight advance in lumber, and coal livelier than for the past week or two. The grain outlook is considered promising but is stagnant at present, and at former quotations. It is calculated that the head of the lakes will send forward sixty million bushels, and with Port Arthur shipments the total is figured at two million tons, making a record of nearly eighty million bushels, as compared with forty-three millions as the previous highest shipments from Duluth-Superior.

Iron Ore.—A large fleet has been chartered for next week's loading at former rates, from which there has been no diversion all season. On the other hand, there is no chartering ahead and in so far as the freight market is concerned ore is still king.

Grain.—While the market is lifeless, vessels are by no means laying up, and Chicago scrapes enough grain at last quotations to keep the line boats going and other tonnage changing ports for ore. Duluth holds that 20,000,000 bushels in excess of previous season's shipments will eventuate this year and if the prediction is verified there is a lively time ahead. 1½ was offered on wheat to Midland.

Lumber.—The board of managers of the Lumber Carriers' Association agreed, this week, at a meeting held in Detroit, to sustain the rate of \$2.50 per thousand feet from Lake Superior to Lake Erie ports. So far as is necessary, boats are to be laid up in order to hold the rate, and an advance to \$3 on the first of September was agreed upon. This does away with the \$2.25 rumor so strenuously maintained by a certain clique of shippers and paves the way for a steady rise from this on to the close of navigation. Lumber has to be sent forward and the indications now are that it will pay a fair living rate of freight for its transportation. A lumber charter has already been placed, Duluth to Buffalo, at \$2.75, consigned to the Laidlaw Lumber Co.

Coal.—Tonnage continues in fairly good demand, though Buffalo is not chartering any too eagerly, as the supply is abundant. South Chicago and the north branch is paying 50 cents, also one cargo to Milwaukee, although the going rate is 40 cents, and to Lake Superior 35 cents.

IN NEED OF ANOTHER VESSEL.

The Journal, Prescott, Ont., says that A. A. Leyare, in behalf of the Rapid Transit Co., is negotiating for the purchase of the steamer Frank E. Kirby one of the fastest boats on the Detroit river. The steamer is 195 feet long, thirty feet beam and ten feet deep. Her maximum speed is nineteen miles an hour. The members of this company are the same as the one which was formed to purchase the Unique, which transaction has come into the courts as a breach of contract suit with a claim of \$5,000 damages by Mr. Leyare as promoter of the enterprise. If the sale is consummated the boat will be put on the Kingston-Ogdensburg route this fall.

RELATIVE to a letter mailed from Sault Ste. Marie, written over a nom de plume, we invariably decline to print general charges against vessel owning firms, which may be construed derogatory to the best interests of all concerned. After mature reflection, correspondents sometimes have the grace and good sense to thank us for exercising this discretion.

Now comes the time when the district officers of the Corps of Engineers, U. S. A., submit their estimates and representations to the Chief of Engineers for the up-keep and improvements of rivers and harbors within their respective districts. The Engineer in Chief, through the Secretary of War, submits the proposals to Congress.

TAKEN as a general average, Montreal reports about 30 feet of water at her docks and wharves. This is a good enough draft for almost any seaport situated so far from the coast line as Montreal is, and yet, if the trade demanded it, another ten feet could be easily obtained.

THE New York political machine which was put to work in order to belittle the regime of the Chief of the Weather Bureau, seems to have acted after the manner of boomerangs in the hands of Australian aborigines.

THE thanks of the RECORD are due the Secretary of Lloyd's Register, London, for his courtesy in forwarding the usual quarterly shipbuilding returns.





## A TRUSCOTT BOAT

SIMPLE, SAFE,  
RELIABLE, SPEEDY.

It may be possible to build better and safer boats, but it hasn't been done yet.

We send a completely illustrated catalogue and price list free, which tells you all about boats and

WHY TRUSCOTT  
BOATS EXCEL.

Truscott Boat Mfg. Co.,  
ST. JOSEPH, MICH.

### PUBLIC SERVICE OF RAILWAYS.

The number of passengers carried during the year ending June 30, 1900, as shown by the annual reports of railways, was 576,865,230, showing an increase for the year of 53,688,722. The number of passengers carried one mile—that is passenger mileage—was 16,039,007,217, there being an increase in this item of 1,447,679,604. There was an increase in the density of passenger traffic, as the number of passengers carried one mile per mile of line in 1900 was 83,295, and in 1899, 77,821.

The number of tons of freight carried during the year was 1,101,680,238, an increase of 141,916,655 being shown. The number of tons of freight carried one mile—that is, ton mileage—was 141,599,157,270. The increase in the number of tons carried one mile was 17,931,900,117. The number of tons carried one mile per mile of line was 735,366. These figures show an increase in the density of freight traffic of 75,801 tons carried one mile per mile of line.

The report contains a summary of freight traffic analyzed on the basis of commodity classification, and also a summary indicating in some degree the localization of the origin of railway freight by groups of commodities.

The average revenue per passenger mile for the year ending June 30, 1900, was 2.003 cents. For the preceding year it was 1.925 cents. The revenue per ton of freight per mile was 0.729 cent, while for 1899 it was 0.724 cent. An increase in earnings per train mile appears for both passenger and freight trains. The average cost of running a train one mile increased nearly 9 cents, as compared with 1899. The percentage of operating expenses to earnings shows a small decrease as compared with the preceding year.

On June 30, 1900, the total single-track railway mileage in the United States was 193,345.78 miles, an increase during the year of 4,051.12 miles being shown. This is a greater increase than that for any other year since 1893. The States and Territories which show an increase in mileage in excess of 100 miles are Alabama, Arkansas, California, Idaho, Illinois, Iowa, Louisiana, Minnesota, Mississippi, Nebraska, North Carolina, Oregon, Pennsylvania, South Carolina, Texas and Oklahoma. Practically all of the railway mileage of the country is covered by reports made to the commission, the amount not covered being 789.75 miles, or 0.41 per cent of the total single-track mileage. The aggregate length of railway mileage, including tracks of all kinds, was 259,788.07 miles. The distribution of this aggregate mileage was as follows: Single-track, 193,345.78 miles; second-track, 12,151.48 miles; third track, 1,094.48 miles; fourth track, 829.29 miles; and yard track and sidings, 52,367.04 miles.

### NEW CANADIAN LAKE TONNAGE.

The Caledon Shipbuilding Co., Dundee, Scotland, has launched a steel screw steamer, built for the Canadian lake trade, to the order of Mr. James Playfair, Midland, Ont., through the agency of William Petersen, of Montreal.

The dimensions of the new boat, named the Midland Queen, are as follows: Length, 225 feet; breadth, 42 feet 6 inches; depth, 23 feet 8 inches; with a gross tonnage of 1,900 tons, and a carrying capacity for 110,000 bushels of grain.

The engines are of the triple expansion type with cylinders 18 inches, 30 inches and 50 inches diameter, with a stroke of 36 inches, steam being supplied by two large steel boilers, with a working pressure of 170 pounds per square inch. The Midland Queen proceeded to Manchester, Eng., where Messrs. Petersen will load her for Montreal and Chicago. The Midland Queen is expected to arrive in Montreal about August 10.

The Thousand Islands Steamboat Co. are having plans prepared for two large side-wheel steamers, to be built and ready for service by the opening of navigation next season. They will have a large carrying capacity and be very speedy. The contract is likely to be placed with a lake shipbuilding firm.

### MILLIONS FOR HOME DEVELOPMENT—NOT A DIME FOR FOREIGN JOBS.

Editor Marine Record:

The Press Publicity Department of the Cincinnati Association invites editors to help to attract the attention of the world to the Ohio valley resources and ability to compete with the world's products of hand and brain. The purpose of the association is commendable.

Those who ignore the pressing demands of the enormous commerce of the great lakes, which has no adequate waterway to tide water through American territory and favor expending several hundred millions on a foreign ditch, not needed, are widely astray. The most important business for the association is to side-track such reckless legislators as Morgan, Hepburn & Co., and secure appropriations for home canals. Such are the views of the Republican, Wauseon, O.

As the Panama canal is nearly half completed, and its neutrality has been guaranteed by the nation and the traffic across the isthmus will not support two canals, it is evident that those who advocate the building of the Nicaragua canal are unwise advisers. The cost of the canal would build two deep waterways from the Great Lakes to tide water. One from the head of Lake Erie to the Gulf of Mexico, and another from the outlet of that lake to the Hudson river, and confer 20 times the benefit on the nation. Not only would the cost of transportation be greatly decreased, but in time of war the magnificent vessels of the lakes could be transferred to the ocean, and vice versa. The legislator who votes the people's money for an unnecessary canal, when 60,000,000 of tonnage is unable to go to tide water through American territory, is an incompetent of the most objectionable type.

QUAKER.

### CANADIAN LINE OF FAST STEAMERS.

It is made known that the Dominion Government will advertise for tenders for the fast Atlantic steamship service, which has been hanging fire these five years past. From well-informed sources it is learned that the specifications will call for four steamers of a sea-going speed of 23 knots. With such vessels the passage from Liverpool to Halifax could be made in four and a half days, or about 24 hours quicker than the fast steamers of the American and North German Lloyd Lines make the trip between Southampton and New York. The distance between Liverpool and Halifax is 2,450 miles. Between Liverpool and

## Pintsch Gas Lighted Buoys.

Adopted by the English, German, French, Russian, Italian and United States Light-House Departments for channel and harbor lighting. Over 1,000 gas buoys and gas beacons in service.

## Burn Continuously

from 80 to 365 days and nights  
without attention, and can be seen  
a distance of six miles. . . . .

Controlled by

**THE SAFETY CAR HEATING AND LIGHTING CO.**

160 Broadway, New York City.

### THE KNAPP ROLLER BOAT.

It was thought some time ago that we had heard the last of the "Roller Boat" and Mr. Knapp's pretensions with regard to the crazy freak. Not so, however, for he again bobs up serenely and announces with the utmost sang froid that he is still to the front, as witness the following from the Quebec Daily Telegraph:

Mr. F. A. Knapp, the well-known inventor of the Roller Boat, is at the Chateau Frontenac. He has been here for two days and leaves this evening for the West. To those who know nothing about Mr. Knapp's revolutionary ideas of steam-carrying boats his proposition cannot be regarded with any great degree of faith. But to meet the gentleman, converse with him and see his plans and drawing of his new boat, which is to have a second trial some time next week, is to readily believe that his new mode of carrying freight and passengers is quite possible. In fact to the unprejudiced and ordinary intelligent person, the problem seems quite probable. But outside of the main object of Mr. Knapp's new roller boat, which will cross the ocean, he has certainly achieved a great success in inventing a boat that will carry grain from the far West through the canals cheaper by over 50 per cent than any other boat now in existence. The boat is an elevator as well and will thereby create another saving. This is Mr. Knapp's principal reason for coming to Quebec. He is not here to see the Board of Trade or any other bodies. It is his first trip to the Ancient Capital, and he is delighted. He is looking for a port to make the largest grain shipping port in the world. It will be larger than the largest today by many millions of bushels. He was decided on Quebec and now our citizens may take a double interest in the second experiment to be made with his boat in Prescott next week. Among those who will be present on the occasion will be J. Pierpont Morgan's chief engineer, J. J. Hill's principal man, and many other such men. The success of this great trial, gigantic as it may seem, means the expenditure of many millions of dollars in Quebec and the making of this city the largest and wealthiest in Canada.

### MARINE PATENTS.

- 678,407. Bulkhead Door. H. Lee, East Orange N. J.
- 678,467. Submarine Telescope. A. Grooms, Detroit, Mich.
- 678,745. Boat. C. B. de Lamar, and N. Taltavuli, Biloxi, Miss.
- 678,757. Apparatus for Automatically Firing Ship's Guns. L. Obrey, Trieste, Austria-Hungary.
- 678,787. Marine Fire Indicating Mechanism. F. W. Meyer, Jersey City, N. J.
- 678,798. Tow Head. Drew Stretch, Liverpool England.

At Philadelphia, Camden, Chester and Wilmington 25 vessels are under construction; San Francisco, Portland and other Pacific coast ports, 10; Newport News and Richmond, 7.



**ANOTHER ESCAPED METEOROLOGIST.**

A Swiss scientist has written the Commercial News a letter, the following of which is a literal translation:

CHILLON (SUISSE) June 13, 1901.

To the Editor of the Journal Commercial News, 34 California Street, San Francisco, U. S. A.

Dear Sir:—Would you have the kindness to request some ship captain sailing between San Francisco and Honolulu, Auckland or Sydney, to note the Fiji Islands, Caledonia and New Hebrides as being visited by violent atmospheric disturbances on the 5th, 6th, 7th, 8th and 9th of July, and on the 18th, 19th and 20th of the same month. The 19th particularly, is an extremely critical date for the meridians 155 to 165 east from Paris, the 27th parallel of latitude south. The 26th of July is also a date to be feared, as being likely to produce a cyclonic center on the 155th meridian east from Paris, 21st parallel of latitude south. You will oblige me very much if your intermediary a ship captain, would be induced to note these indications and verify them in case he should happen to be in those vicinities at the time indicated. These prognostications are based on the lunar declination of the 16th of June and that of the 26th of July. By means of information published in your paper, under the article "Memoranda," I have been able to establish the fact that each time that the ship captain observed the hurricane it coincided with the lunar declination analogous to those of the dates above given. I have therefore reason to believe that as the same causes produced the same effects, the violent atmospheric disturbances will take place on the dates I have indicated, and on those meridians situated between Australia and the Samoan Islands. I thank you very sincerely for your paper and hope soon to reciprocate by giving you the weather predictions for San Francisco during the entire year 1902. You know that if you like you can make wagers with the incredulous upon this subject. Thanking you again, I remain,

(Signed) JULES CAPRE.

**THE FLORIDA SHIP CANAL.**

The project of cutting a ship canal across the peninsula of Florida has been talked of for many years, as all great undertakings are discussed for years before they are taken in hand and finished, says the Jacksonville (Fla.) Times-Union. The renewed interest that is now being taken in this project gives promise that the time for its execution is near at hand. It is not a vast undertaking. The canal would be an unusually long one for a ship canal, but it could be run through a country but little above the sea level. No high ridges would have to be cut through and no rock-ribbed soil would be found along its route. Florida soil is easy to excavate, and a canal cut across this State 100 miles long would cost less than one of one-fourth of its length across an isthmus with a mountain range or range of hills dividing the waters on either side. Such a canal would be easy to cut, and it would be a great saving to commerce. The Florida straits are dangerous to navigators; the canal would be safe. The distance through the canal would be shorter, and another of its advantages would be the saving of a long trip through the gulf stream, whose waters, on account of their warmth, prove injurious to certain classes of freight. In the past fifteen years there has been a gain of foreign trade of the

gulf ports whose commerce would go through the Florida canal of \$161,853,693, or nearly 150 per cent. And it is probable that the gain will be more rapid during the next fifteen years than during the last fifteen, for the oil discoveries in Texas will give great impetus to the industries and the commerce of that State, and the iron and steel and coal development of Alabama will vastly increase the shipments from Pensacola and Mobile.

**A BRITISH-BUILT STEEL PONTOON DOCK.**

Messrs. Robert Stephenson & Co., Ltd., England, have just completed what is considered the largest self-docking pontoon dock afloat. The immense steel construction is of great strength and built to comply with the requirements of the Spanish Admiralty. These requirements are, that if a ship of 12,000 tons weight, with a length of 328 feet, be placed in the center of the dock, no part of the dock shall be worked to more than 6.33 tons per square inch in extension, and 7.6 tons per square inch in compression.

The bottom portion of the dock is built of iron, and is composed of six pontoons, each 74 feet 2 inches long by 117 feet wide by 13 feet 6 inches molded depth. On the top of those are placed the side towers, or girders, securely bolted to the pontoons, and binding them all together. The pontoons are also connected together by junction plates extending across the dock at each pontoon end. The side girders are built of steel on account of their having to take the strain when a ship is docked, and also, as being mostly out of water they are not so liable to corrode.

The dock is being towed from Hebburn to the Mediterranean by three powerful tugs belonging to Messrs. Smit & Co., of Rotterdam, who make a speciality of long-distance towing of this description. The voyage is calculated to occupy thirty days. There are two tugs towing, namely, the *Zwarte Zee*, whose tow rope is of 20 inch manila, and the *Oceaan*, having an 18-inch manila tow rope. The steering is done by the *Zuider Zee*, whose check rope is of 13-inch manila.\* Seven tugs were employed to take the dock through a stretch of river from the shipyard to the coast.

\*These dimensions are in circumference and not the diameter measure as in usual mention on the lakes.

**NOTICE TO MARINERS.**

DOMINION OF CANADA—ONTARIO.

WRECK OF THE "SPECULAR."—With further reference to notice to mariners, part 1, of No. 79, of 1900, and part 4 of No. 25, of 1901, Capt. Dunn, of the D. G. S. "Petrel," reports that he has discovered a spot on this wreck with only 11 feet of water on it.

The locality will be examined and further notice given.

SURVEY BUOYS PLACED TEMPORARILY IN ST. LAWRENCE RIVER.—Notice has been received from the Department of Public Works that a number of white spar buoys are to be placed at various points in the St. Lawrence river, between Prescott and Kingston during the coming season by the engineers engaged in surveying that portion of the river.

It should be distinctly understood that these buoys are for survey purposes only and are not intended as a guide to vessels.

Mariners are earnestly requested not to interfere with these buoys in any way.

F. GOURDEAU,

Deputy Minister of Marine and Fisheries.

Department of Marine and Fisheries,

Ottawa, Canada, 5th July, 1901.

**SUN'S AMPLITUDES.**

The following approximate amplitudes of the Sun's rising or setting will be given each week in this column during the season of navigation. A second bearing may be taken by compass at sunset, by reversing the east bearing given for the nearest latitude, as the change in declination for a few hours makes but a slight difference in the true bearing of the Sun's setting. The bearing may be taken when the Sun's center is on the horizon, rising or setting. The elements which may be obtained by taking these amplitudes are the quantities known as local attraction, variation and deviation, or the total difference between compass and true, or geographical bearings.

LAKE ERIE AND S. END LAKE MICHIGAN, LAT. 42° N.

Date. Amplitude. Bearing P'ts. Bearing Comp.

July 24....E. 27° N. = N. 5½ E. = N. E. by E. ½ E.

July 28....E. 26° N. = N. 5½ E. = N. E. by E. ½ E.

July 31....E. 25° N. = N. 5¼ E. = N. E. by E. ¾ E.

LAKE ONTARIO, S. END HURON AND CENTRAL PORTION LAKE MICHIGAN, LAT. 44° N.

Date. Amplitude. Bearing P'ts. Bearing Comp.

July 24....E. 28° N. = N. 5½ E. = N. E. by E. ½ E.

July 28....E. 27° N. = N. 5½ E. = N. E. by E. ½ E.

July 31....E. 26° N. = N. 5½ E. = N. E. by E. ½ E.

N. END LAKES HURON AND MICHIGAN, LAT. 46° N.

Date. Amplitude. Bearing P'ts. Bearing Comp.

July 24....E. 29° N. = N. 5½ E. = N. E. by E. ¾ E.

July 28....E. 28° N. = N. 5½ E. = N. E. by E. ½ E.

July 31....E. 27° N. = N. 5½ E. = N. E. by E. ¾ E.

LAKE SUPERIOR, LAT. 48° N.

Date. Amplitude. Bearing P'ts. Bearing Comp.

July 24....E. 31° N. = N. 5¼ E. = N. E. by E. ¼ E.

July 28....E. 29° N. = N. 5½ E. = N. E. by E. ¾ E.

July 31....E. 28° N. = N. 5½ E. = N. E. by E. ½ E.

With a compass correct magnetic, the difference between the observed and true bearing or amplitude will be the variation for the locality. Should there be any deviation on the course the vessel is heading at the time of taking the bearing, the difference between the observed and the true amplitude after the variation is applied will be the amount of deviation on that course. If the correct magnetic bearing is to the right of the compass bearing, the deviation is easterly, if to the left, the deviation is westerly.

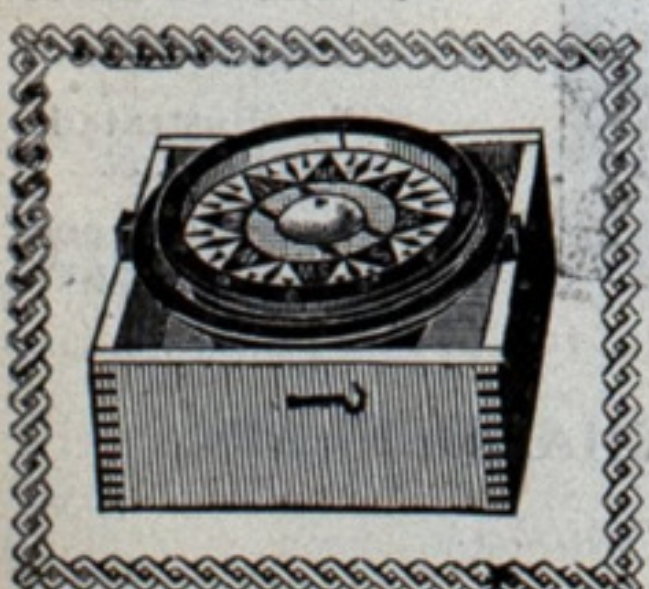
The folder of the Northern Navigation Co., of Ontario, has some very good illustrations of the scenery to be found amongst the 30,000 islands of Georgian Bay, reached by steamers. It has a fine full-page view of the Canadian locks at Sault Ste. Marie, with one of the company's vessels locking through.



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Bessemer Steamship Co.'s steamers S. F.  
B. Morse and Douglas Houghton.

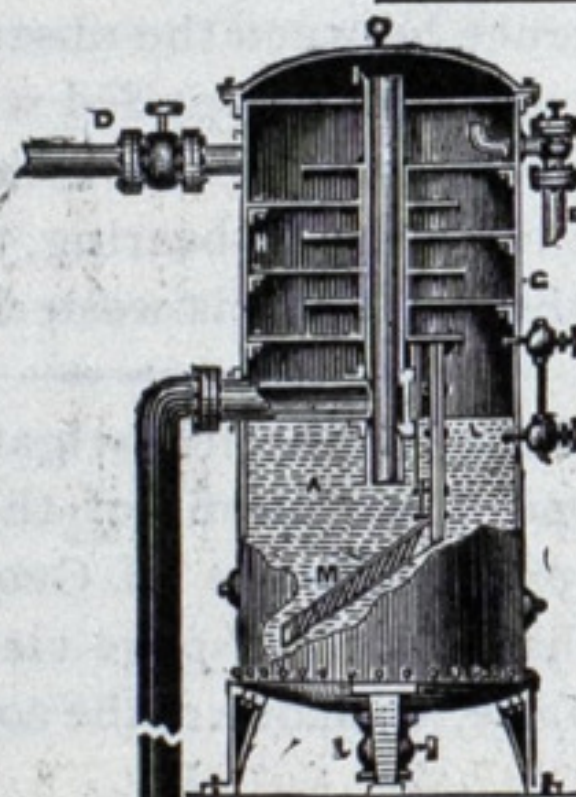
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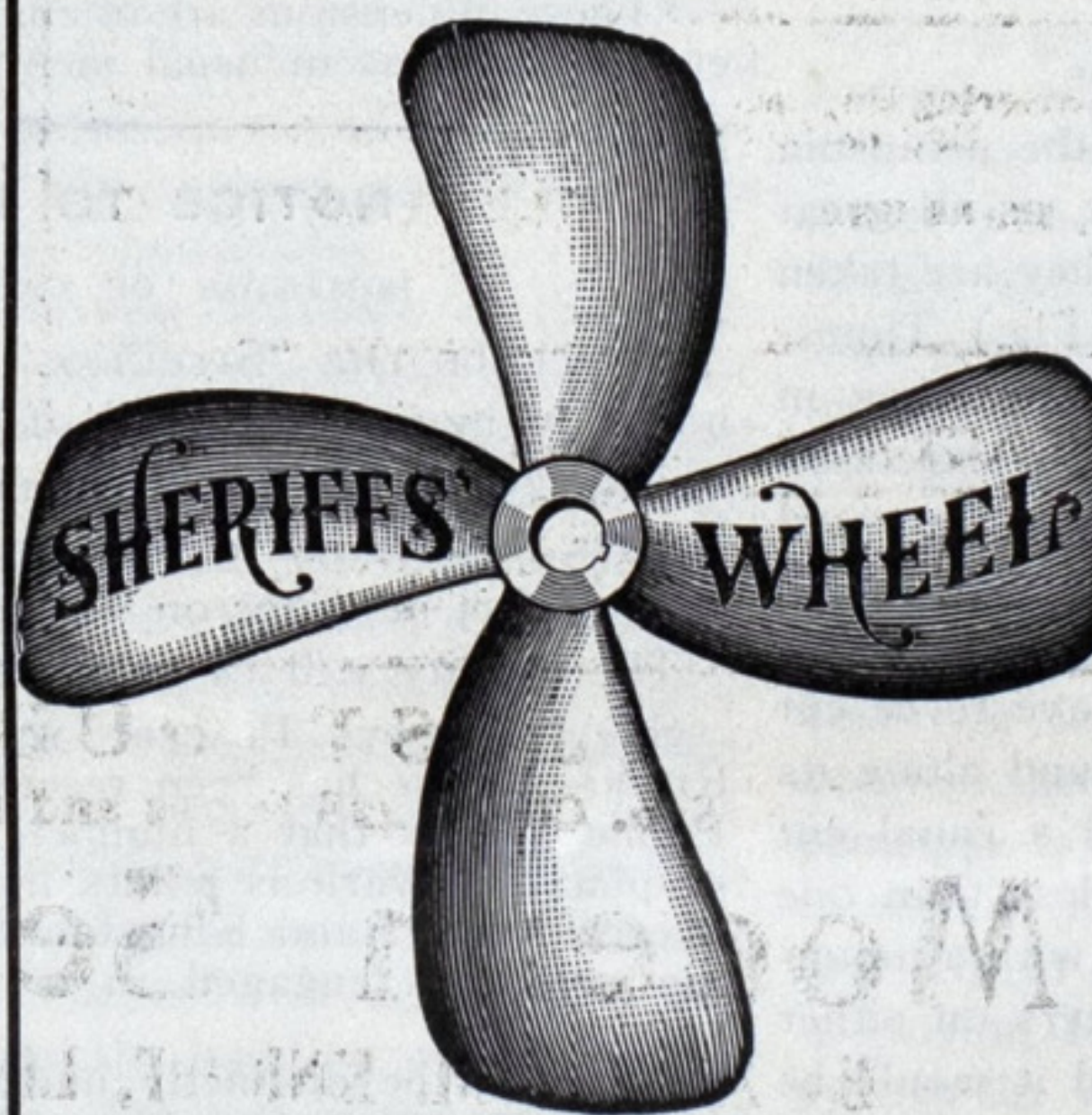
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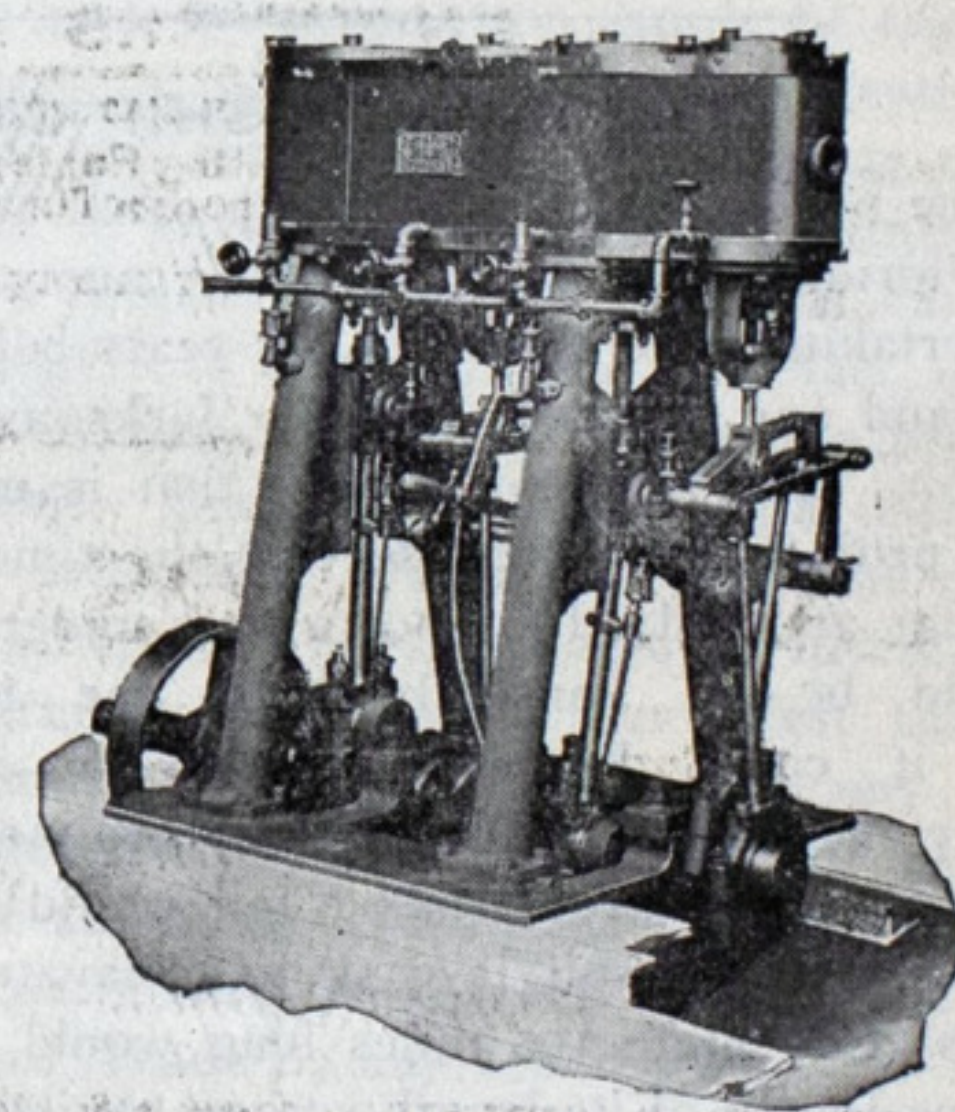
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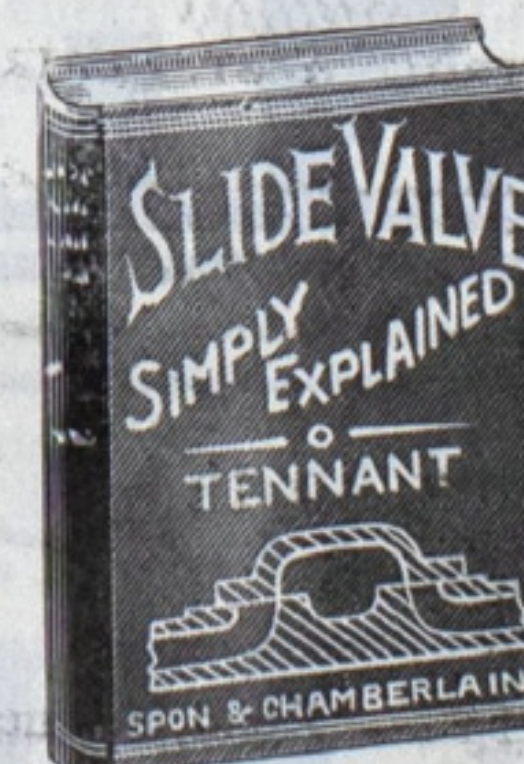
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**HOW THE SCOTCHMAN GOT THE BROGUE.**

A story in the New York Herald of transplanted accent in South Africa recalls the fact that Dr. Conan Doyle, that fertile romancer, has been doing medical duty on the Boer battlefields. It appears that a fine big Irishman was killed in a fight near Pretoria. Shortly after the doctor was in the thick of the fight, in which were engaged also a body of Highlanders. One of the men he knew. Soon he found his old friend, Angus MacTavish, on a stretcher, with his upper lip clean blown off by one of the guns of the enemy. He was a horrible sight, and the doctor was deeply concerned what to do for him. Suddenly a thought struck him, which he immediately carried into effect. He found the body of Patrick O'Hara, which was still warm, and giving MacTavish an anesthetic, he sliced the top lip off Patrick and stitched it under the nose of MacTavish. A month or so afterwards the doctor was in Pretoria, not having seen MacTavish since the operation. One day he came across him and was delighted to see him looking so well. Evidently he was quite convalescent. The physician stopped him and said, "Well, Angus, how goes it, my man?" To the doctor's astonishment he replied in the richest brogue, "Begorra, Dochter, I'm as roight as I can be, and faylin' illegant."

**LIQUID FUEL ABOARD SHIP.**

A subject which is always of interest in connection with all marine machinery is the use of liquid fuel. Its obvious advantages in the way of convenience of storage and rapidity of receipt are in its favor, while the much higher calorific value than that of coal and the close fire regulation possible, as well as the immediate effect of its combustion would all commend it very highly. Experiments have been made in many countries to determine its adaptability, and

some very interesting experiments made in Italy about 1892 showed that a common opinion is erroneous, namely, that the use of steam for spraying the oil would be inadmissible on account of the large amount required. The Italian experiments showed that a high efficiency in the use of oil could be obtained with an expenditure of less than 2 per cent of the amount of water vaporised. This would be the simplest way to secure the spraying of the oil, as it would do away with the somewhat complicated machinery needed for compressing air if that were used.

There are two very serious objections, however, to the use of oil. One is that there are relatively few places where fuel oil could at present be obtained, along with the fact that any extensive demand would probably raise the price so as to make it more expensive than coal. The second objection, however, is the more serious one, namely, that thus far it has been found impossible with liquid fuel to obtain as great an amount of power from a given boiler as when good coal is used. In 1897 and 1898 some experiments with oil fuel were made under the direction of Admiral Melville, U. S. N., on the little torpedo-boat Stilletto, and in many respects they appeared very promising. During 1900 these experiments were repeated on a larger scale on the torpedo-boat Talbot, but the results have thus far proved disappointing, and the apparatus for burning oil fuel has been removed for the present.—W. M. McFarland, in Cassier's Magazine for August.

MA AND TOMMY.—"Tommy, use your fork. Don't you know it is wrong to eat with your fingers?" "Fingers were made before forks, ma." "They were—but not yours."

THE BABY.—"Charles, dear, we must get a nurse, for the baby." "Nurse be hanged! What he wants is a night-watchman."

At the instance of the British boiler committee the cruisers Medea and Medusa are to be placed in the hands of Palmer's Shipbuilding Co., Ltd., Jarrow, to be fitted with boilers for trial purposes. The two classes of boilers to be tried are the Durr type and the Yarrow large tube type. The Engineer says: "Every day it becomes more and more evident that the generation of steam in the navy presents for solution most complex questions. Much has been done in ignorance which has to be undone. Facts come to light daily, making for and against every type of boiler that can be suggested, until we are disposed to despair that the problem will be solved satisfactorily. Only one fact comes out with any clearness, namely, that the boiler with large tubes nearly horizontal does not appear to be better in any respect than the cylindrical boiler, which it has driven out of our newest ships."

THE Navy Department has purchased the floating dry dock which lies in Havana harbor, from the Government of Spain for \$185,000. Negotiations for the purchase of the dock were closed by Comdr. Lucien Young, U. S. N., Captain of the Port, at Havana. The original price at which the dock was offered by the Spanish Government was \$250,000. It is stated by the chief naval constructor that the dock has been in constant use. Secretary Long has under consideration a recommendation of Admiral Bowles that the dock be sent to the Philippines. Admiral Bowles regards this plan as feasible. The British Government sent one of the biggest dry docks in the world from England to Bermuda, and a private firm is now towing one from Hebburn, England, to Port Mahon, Island of Minorca, in the Mediterranean.

"I wouldn't cry like that, my little man."  
"Well you can cry any old way you want t; this is my way."—Brooklyn Life.

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"Passenger Lines on the Lakes,"  
page 18.

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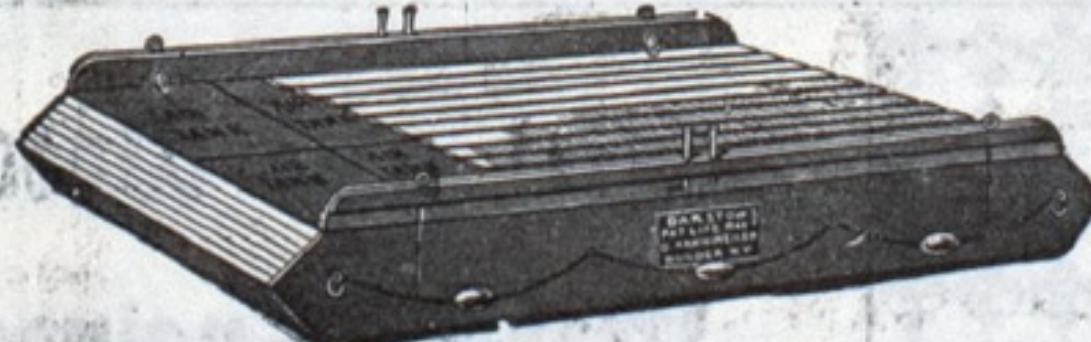
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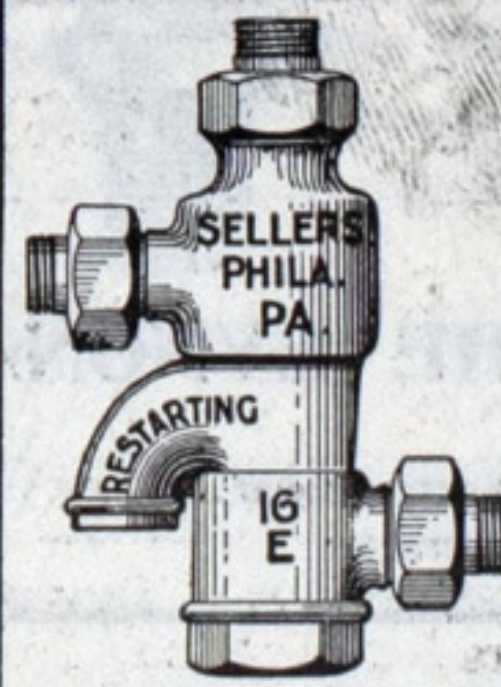


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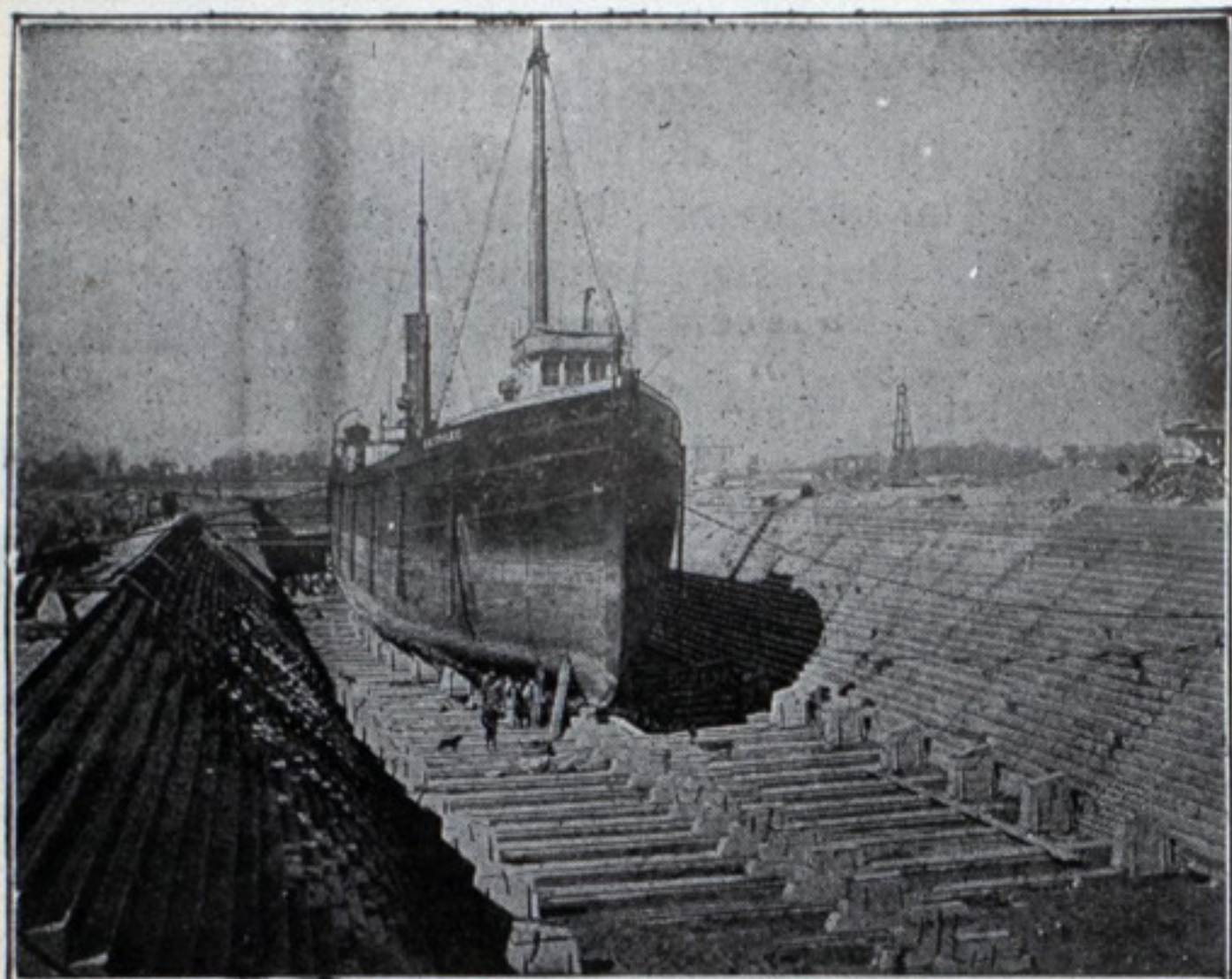
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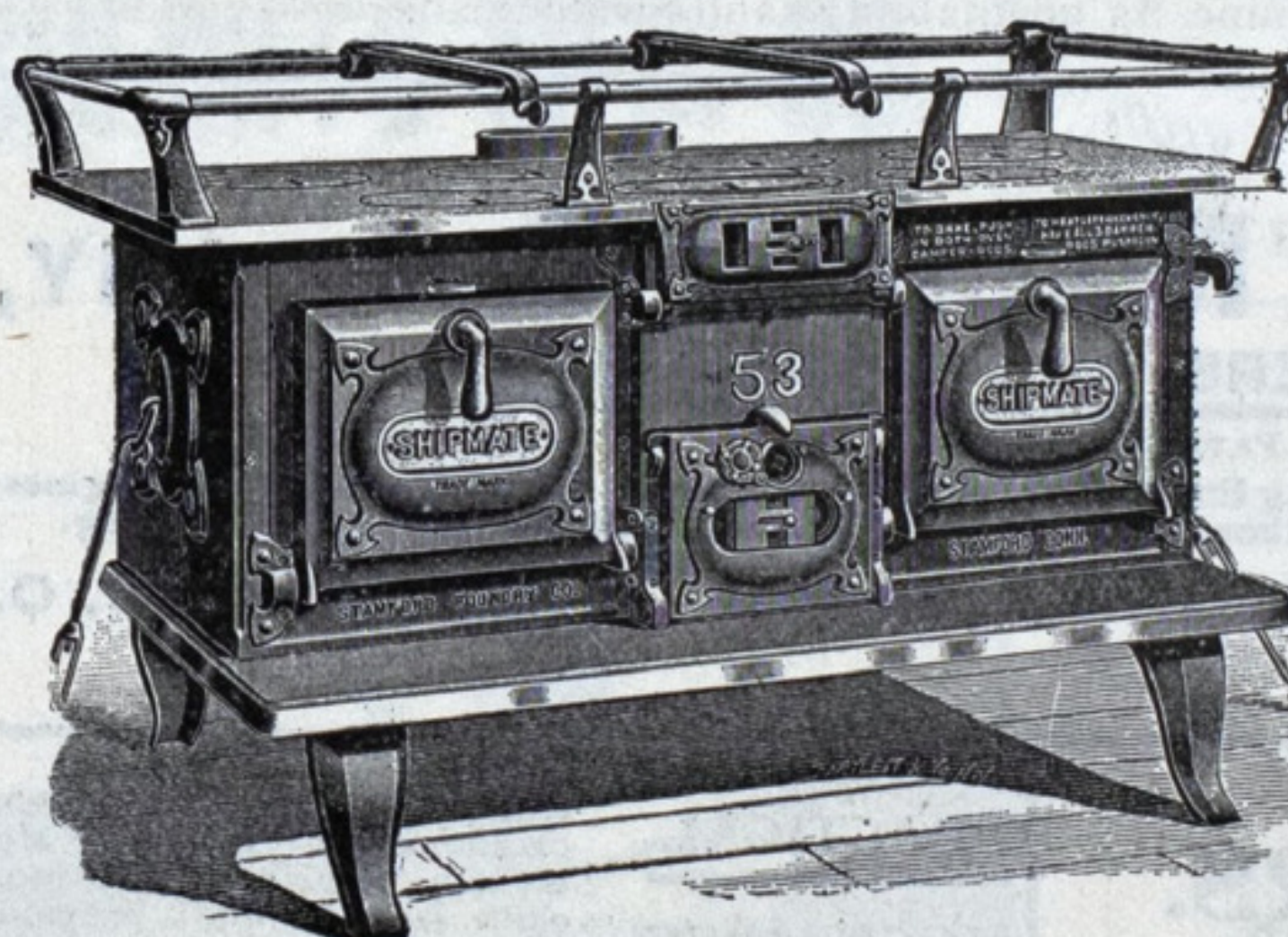
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